

Volume 8

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

BEFORE THE HONORABLE WILLIAM H. ALSUP

ORACLE AMERICA, INC.,	)	
	)	
Plaintiff,	)	
	)	
VS.	)	No. C 10-3561 WHA
	)	
GOOGLE, INC.,	)	
	)	
Defendant.	)	San Francisco, California
	)	April 25, 2012

**TRANSCRIPT OF JURY TRIAL PROCEEDINGS**

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(Appearances continued on next page)

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**CATHERINE LACAVERA**  
Google Corporate Representative

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P R O C E E D I N G S

APRIL 25, 2012

7:29 a.m.

(Proceedings held in open court, outside  
the presence and hearing of the jury.)

**THE COURT:** Good morning. How is everybody this  
morning? Have a seat.

How can I help you this good morning.

**MR. VAN NEST:** Your Honor, I've got a couple things.  
Good morning.

I wanted to apologize to the Court on one exhibit  
where I -- we talked about it last night. That 2881, which is  
the Dalvik platform, is already in evidence. That's the  
graphic. So I have a blow-up to use with Mr. Rubin. It's  
already in evidence TX 43. It was in one of the files that the  
plaintiff submitted among a group of other exhibits. It's  
TX 43, and we'll call the graphic 43.1 just to keep it  
straight.

**THE COURT:** Why don't we just not refer to 2881?

**MR. VAN NEST:** That's what I'm suggesting.

**THE COURT:** Okay. So TX 43 will be the way we refer  
to it. All right. Great.

What's next.

**MR. VAN NEST:** That's item one.

Item two. I just let counsel know, I think it's --

1 it's possible, and maybe likely, that we'll rest our case  
2 tomorrow. So tomorrow being Thursday.

3 **THE COURT:** Really? That soon? With an expert and  
4 all that?

5 **MR. VAN NEST:** I think -- we'll get close. I mean,  
6 looking at the times it may not quite get there, but I wanted  
7 to give them notice because I think they need to be ready with  
8 rebuttal tomorrow in case we finish.

9 **THE COURT:** All right. Thank you for the update.

10 **MR. VAN NEST:** We are going to hand in a very short  
11 set of clips from Mr. Ellison, a video with objections and so  
12 on for your Honor to review. I expect we won't get to that  
13 today, but that will probably be a tomorrow item. It's very,  
14 very short.

15 **THE COURT:** Are there objections?

16 **MR. VAN NEST:** There are, but they will be pretty  
17 easy to resolve.

18 **THE COURT:** I will look at them. I mean, I'll read  
19 your excerpts.

20 **MR. VAN NEST:** And the only other question I had  
21 given the schedule we're on, our patent teams are both working  
22 very hard. Do you have an idea in your mind about when the  
23 patent phase would begin, assuming that we get to the jury on  
24 the copyright phase early next week?

25 Would your idea be that if the case goes into them

1 Monday, we would start a couple days later or --

2           **THE COURT:** Before I start thinking out loud on that,  
3 let me hear from the other side on the rebuttal case.

4           **MR. VAN NEST:** Okay. I think that's all we had.

5           **THE COURT:** Assuming you have time left for a  
6 rebuttal case, do you plan on putting one on?

7           **MR. BOIES:** We do plan to have a rebuttal case, your  
8 Honor, but you're quite correct that it will be short. I think  
9 it would be short probably under any circumstances, but  
10 particularly given the time constraints.

11           Clearly, if they were to finish, say, at the end of  
12 the day Thursday, we would finish sometime on Friday with time  
13 left over on Friday. And I guess one of the questions for  
14 planning purposes is that assuming that we do have time on  
15 Friday, would the Court expect to go into closing on Friday?

16           **THE COURT:** We will need to have a conference on the  
17 jury instructions, which I am working hard on and I do not have  
18 a draft for you yet. I have part of a draft that I think is  
19 close, but not quite close enough. For example, you lawyers  
20 were unable to agree on who even has the burden of proof on  
21 diminimus. So I have some things I've got to sort out, but I  
22 need to give you a chance to look at it before.

23           So I am positive we will not have closings this  
24 Friday, if we're on a Thursday schedule. We will use that time  
25 for a charging conference. We would have the closings on

1 Monday under that schedule.

2 Now, to go back to -- we can start the -- we've got  
3 to wait for a verdict. It could be one day. It could be 17  
4 minutes, as in a case I had recently, it could be all week that  
5 the jury wants to take to render a verdict. We don't know.  
6 It's up to them.

7 So, but my thought is that if there's -- depending on  
8 what time of day they were to render the verdict. If they were  
9 to render the verdict, say, near mid-day or 11:00 o'clock, then  
10 we would adjourn for that day and start fresh the next day.

11 If they rendered the verdict at 8:00 o'clock one  
12 morning, then we would take a time for the lawyers to adjust,  
13 and whoever wins or loses to put on a happy face, and then go  
14 to phase two that day.

15 But I suspect it will take a minimum of a day and a  
16 half after the closings for the jury to reach a verdict.  
17 That's my judgment, but I could be wrong.

18 So another question. How long do you want for the  
19 closings?

20 **MR. BOIES:** I think we had been anticipating -- I'm  
21 not sure exactly why, but I think we had been anticipating 90  
22 minutes a side.

23 **MR. VAN NEST:** That seems long, but I think your  
24 Honor already gave us an order on that.

25 **THE COURT:** What did I say?

1           **MR. VAN NEST:** I thought you said 90 minutes, but I'm  
2 not sure. We'll take a look.

3           **THE COURT:** Well, actually, I had -- didn't remember  
4 that, but I was thinking 90 minutes also.

5           (Laughter.)

6           **THE COURT:** I want you all to tell me what you need.  
7 I don't want someone leaving thinking that they got  
8 shortchanged on what they needed.

9           **MR. BOIES:** I think 90 minutes from our standpoint  
10 would be good, your Honor.

11           **THE COURT:** But that's counting your rebuttal part.

12           **MR. BOIES:** Yes, it is. That's counting our  
13 rebuttal.

14           **MR. VAN NEST:** I think that's more than enough, your  
15 Honor.

16           **THE COURT:** Okay. Well, whenever I interrupt you at  
17 the end and say, "Your time is up," then you may not think  
18 that.

19           **MR. BOIES:** It's never enough at the end, your Honor.

20           **THE COURT:** All right. So 90 minutes it is, but that  
21 will then -- 90 minutes, plus 90 minutes, plus jury  
22 instructions, will be an hour. So you can see that doesn't  
23 leave much time for them to get started on -- I may suggest to  
24 them that they stay into the afternoon on the first day that  
25 they -- when it goes to the jury.

1           Anyway, so I'm giving you the parameters, but I can't  
2 give you a firm answer on when we would start on the patent  
3 part of the case. So we'll just have to leave it there for  
4 now.

5           **MR. VAN NEST:** That's helpful, your Honor. That's  
6 all I was looking for, your Honor.

7           **THE COURT:** All right. So now we go to -- there is a  
8 motion that was filed last night to add a patent back in the  
9 case, so let's hear argument on that.

10          **MR. JACOBS:** So, it's an important patent and it's  
11 now been confirmed by the Patent Office and we would like to  
12 assert it in the case.

13          We know your Honor has had to anticipate a possible  
14 issue. Your Honor has had a concern with the total number of  
15 claims that the jury would hear, and so last night we looked  
16 really hard at the claims of what would be the three patents.

17          With the two existing patents, we would have 10  
18 claims in front of the jury. If we add the third patent in,  
19 it would go up, I think, to 18 if we didn't reduce the claims.  
20 We've looked, as I say, very hard and we can try the three  
21 patents with 10 claims. So no net increase in the number of  
22 claims the jury would have to hear about.

23          And we put the issue to your Honor of what the  
24 various commitments and orders mean. We note that Google never  
25 filed anything to say these claims have been dismissed with



1 prejudice and so that the claims are kind of hanging out there.

2           Our commitment to you was that we would not assert  
3 patents before that were not -- if the claims of the remaining  
4 patents were not confirmed before the trial started, we would  
5 dismiss. And we believe that given all the facts and  
6 circumstances, the right way to interpret that commitment is at  
7 the start of the patent trial.

8           Google has identified several possible areas of  
9 procedural prejudice to them. Obviously, they are not going to  
10 be happy that they have to face a third patent. We understand  
11 that. But in terms of procedural unfairness to them, I don't  
12 think any of those arguments are particularly compelling.

13           We are already. The experts are all ready to go on  
14 these patents and any concern about subpoenaing Mr. Fresco or  
15 the other issue that Google identified, I'm sure we could work  
16 out to make sure that they weren't procedurally impaired by  
17 this development.

18           **MR. VAN NEST:** Your Honor, I thought your order was  
19 very clear, and we have been discussing the trial date, as your  
20 Honor remembers, for a long time. The benefit you offered was  
21 a spring trial and the price you requested was a dismissal with  
22 prejudice, which is what they said they would do.

23           Your Honor's orders are crystal clear. If they  
24 weren't, the plaintiff should have made this request months and  
25 months ago.

1           As we noted in our short pleading, as a result of our  
2 understanding that this was a two patent case, we haven't  
3 subpoenaed the inventor. We haven't secured our expert on  
4 invalidity. He's not available. We have been preparing hard  
5 for a two patent case, which is what I understood would be the  
6 situation.

7           The trial started on the 16th, as your Honor ordered,  
8 and I think it's too late to get a redo now. We would be  
9 prejudiced in a whole number of ways, particularly since I  
10 think the patent phase will start next week, given where we are  
11 in the copyright phase, and I think this would be completely  
12 contrary to everyone's understanding, including your Honor's,  
13 about where we were in the case and what benefit they would get  
14 for dismissing with prejudice, which they did.

15           **THE COURT:** All right. I'll think about it and get  
16 an order out.

17           Anything else this morning?

18           **MR. PURCELL:** Your Honor, we have a handful of  
19 exhibits that we would like to admit by stipulation.

20           **THE COURT:** All right. Please go ahead.

21           **MR. PURCELL:** 573, 606, 607, 2040, 2052, 2053.

22           **MR. JACOBS:** No objection.

23           **THE COURT:** All received.

24           (Trial Exhibits 573, 606, 607, 2040, 2052, 2053

25           received in evidence)

1           **MR. PURCELL:** 2054, 2059, 2060, 2061, 2199, 2205.

2           **THE COURT:** I'm sorry. After 2061 I missed the next  
3 one.

4           **MR. PURCELL:** Sorry. 2199.

5           **THE COURT:** 2199.

6           **MR. PURCELL:** And 2205.

7           **MR. JACOBS:** No objection?

8           **THE COURT:** All received.

9           (Trial Exhibits 2054, 2059, 2060, 2061, 2199, 2205  
10 received in evidence)

11           **MR. PURCELL:** And, finally, 2259, 2724, 3030, 3494,  
12 3508, and 3520.

13           **MR. JACOBS:** No objection.

14           **THE COURT:** Thank you. All of those are now in  
15 evidence.

16           (Trial Exhibits 2259, 2724, 3030, 3494, 3508, and  
17 3520 received in evidence)

18           **MR. PURCELL:** Thank you, your Honor.

19           **THE COURT:** What else can I help you with?

20           **MS. ANDERSON:** Your Honor, I just have a few  
21 procedural things, your Honor. I would like to hand in the  
22 designations for Mr. Ellison's deposition that we have --  
23 the deposition designations for your Honor's ruling on  
24 objections.

25

1 (Whereupon document was tendered  
2 to counsel.)

3 **THE COURT:** These are the ones I need to rule on?

4 **MS. ANDERSON:** Yes. That's correct, your Honor.  
5 It's very brief.

6 And we also, per the Court's instructions, have been  
7 submitting little snippets of the deposition testimony that was  
8 played. We have placed them in the files, as your Deputy Clerk  
9 is aware. We would also like to just read into the record the  
10 numerical identification marks for each one.

11 We've placed in the record Exhibit 3450, which are  
12 deposition clips from Mr. Ellison's deposition.

13 3451, deposition clips from Mr. Screven's deposition.

14 3453, clips from Mr. Reinhold's deposition.

15 3454, clips from Mr. Cizek's deposition.

16 And 3524, clips from Mr. Mitchell's deposition.

17 If I can hand these in for, your Honor?

18 **THE COURT:** If you will put them on Dawn's desk, she  
19 will take care of it.

20 Thank you.

21 **MS. ANDERSON:** Thank you.

22 **THE COURT:** All right, Mr. Norton.

23 **MR. NORTON:** Just a procedural question, your Honor.  
24 For purposes of our rebuttal case, the Court's orders for  
25 timing of disclosures for both witnesses and deposition

1 transcripts don't fit into the time that we have.

2           For example, we would normally give two days' notice  
3 before we would put on a rebuttal -- put on a witness. We  
4 would give five days' notice before we would use deposition  
5 excerpts. Obviously, it won't take five days for the  
6 defendant's to put in their case.

7           I've spoken to Google's counsel and they suggested  
8 that we just ask the Court's guidance for how we should make  
9 disclosures.

10           **THE COURT:** In a circumstance like this you have to  
11 adjust and do the best you can, the best that is reasonably  
12 possible in the circumstances.

13           Otherwise, we will have a delay in the trial and I --  
14 so I would give a delay if it was really prejudicial, but in a  
15 circumstance like this, you do the best you can. And if it's  
16 reasonable enough, then that will be good enough.

17           **MR. VAN NEST:** Actually, your Honor, I thought we had  
18 agreement that we would get the rebuttal designations this  
19 afternoon, and that would be fine.

20           Is that not so? That's what I thought we agreed on  
21 this morning, counsel. And I said if you needed a little more  
22 time after 3:00 o'clock, that's not a problem.

23           **MR. JACOBS:** Oh, I thought that was a different  
24 issue. This is really the deposition designations.

25           **MR. VAN NEST:** Oh, I'm sorry. This is just depo

1 designations, not witnesses?

2 MR. NORTON: Correct.

3 MR. VAN NEST: We'll work that out, your Honor.

4 MR. NORTON: We will, obviously, need very, very  
5 little, but there may be a deposition clip that we won't know  
6 we need until they put the witness on --

7 THE COURT: As I say, the rule of reason will start  
8 to apply at some point.

9 MR. NORTON: Thank you.

10 THE COURT: All right. What else?

11 MR. JACOBS: Nothing further, your Honor.

12 THE COURT: I had some questions for you, but -- what  
13 did I do with that?

14 I need to give you a deadline for your briefing on  
15 work as a whole. Didn't I ask for some -- give you an  
16 opportunity to submit something on work as a whole?

17 MR. JACOBS: You did ask for further briefing and we  
18 do need a deadline.

19 MR. VAN NEST: Yes.

20 THE COURT: How about today? Today at 5:00 p.m.

21 MR. BABER: No problem, your Honor.

22 THE COURT: Is that going to work? If it's not, I'll  
23 give you more time, but this is a pretty tight schedule we've  
24 got.

25 MR. BABER: It works for us, your Honor. We can do

1 it earlier than that, if you like.

2 **THE COURT:** Earlier is fine.

3 **MR. JACOBS:** We would -- we would ask for a little  
4 later, your Honor. We could get it to you by the time -- by  
5 5:00 a.m. tomorrow morning.

6 **THE COURT:** How about midnight?

7 **MR. JACOBS:** Midnight, great.

8 **THE COURT:** But if you want to give it to me sooner,  
9 you can, because I may read it. I'm working on this as we --  
10 not as we speak, but during the day.

11 **MR. BABER:** Your Honor, could we submit it without  
12 filing, so -- we don't want them to see ours. You know what I  
13 mean?

14 **THE COURT:** Oh, come on.

15 **MR. BABER:** We will do it whichever way you like, but  
16 if we do it seriatim, then, you know, we don't know what they  
17 say and we might want to respond and they will have a chance to  
18 respond to us.

19 **THE COURT:** I'm giving you a deadline until midnight  
20 and if you want to wait until 11:59, go ahead.

21 **MR. BABER:** No, no. No. We will get it to you this  
22 afternoon. I'm saying do we have to give it to them --

23 **THE COURT:** I'm not going to get into that. That's  
24 too much gamesmanship for me.

25 All right. You're not contesting originality -- in

1 the SSO Google is not contesting originality, ownership or  
2 authorship, are you? I just want to say to the jury that's not  
3 an issue for you.

4 **MR. BABER:** We are not contesting originality,  
5 generally at all.

6 As to ownership and authorship, your Honor, there are  
7 some -- I don't even know how to describe them. Some very  
8 hairy copyright issues that arise because of what they said in  
9 their last brief that they just filed this past Monday.

10 **THE COURT:** What is that?

11 **MR. BABER:** I'm happy to go into it.

12 **THE COURT:** Take a moment and give me the short  
13 version.

14 **MR. BABER:** Sure.

15 **THE COURT:** Let's just take ownership first.

16 **MR. BABER:** Okay.

17 **THE COURT:** How could they not own it if they bought  
18 Sun?

19 **MR. BABER:** We have no dispute that they own the  
20 copyright registrations and whatever they cover. The problem  
21 is, what do they cover?

22 I'll give it to you in a quick nutshell if I can, but  
23 I have to walk through several steps.

24 In their brief two weeks ago they said these works  
25 should not be treated as compilations, period. They are not



1 compilations under the Copyright Act. The Copyright Act  
2 defines two different terms, "compilation" and "collective  
3 work." And the statute also says a collective work is a form  
4 of compilation.

5 So two weeks ago they said they are not compilations,  
6 and in their brief this Monday they said they are collective  
7 works.

8 That's fine if they want to characterize it that way.  
9 The registrations don't support that. The registrations don't  
10 say they were collective works, but there are very clear legal  
11 consequences --

12 **THE COURT:** Do they have to say that?

13 **MR. BABER:** Yes, your Honor. The form they  
14 registered on is called the Form TX, which is the form for  
15 Non-Dramatic Literary Works, and that includes computer  
16 software.

17 The instructions for that form specifically say -- on  
18 the back of the form there's two parts to question six.  
19 Question six says:

20 "Identify what is preexisting material in the  
21 work, if any."

22 And then 6(b) says:

23 "And what's new?"

24 Okay? Because any copyright only covers what's new  
25 in the work that you're trying to register. Okay.

1           The instructions also say if the work is a  
2 compilation or a collective work, you also have to say so and  
3 describe the compilation. They didn't do that.

4           In their registrations they simply said -- they did  
5 say these are derivative works. They are based on the earlier  
6 versions of the platform, and that's fine.

7           The registration said the preexisting material is  
8 prior versions of the works. See our prior registrations. And  
9 it said, what's new? And it said, new and revised code and  
10 documentation.

11           And it also identified including licensed-in  
12 components. "Licensed-in" means those are things they got  
13 rights to from someone, but they didn't get ownership of it.  
14 They only had a right to include it and have it be part of the  
15 platform.

16           The reason why that is important is the copyright  
17 statute has a special specific provision, 103b. 103(b) says  
18 that when you register a copyright in a collective work -- I'm  
19 sorry, in a compilation, the compilation copyright only covers  
20 the work as a whole or any other materials from the same  
21 author. So --

22           **THE COURT:** That's 103(a) or (b).

23           **MR. BABER:** That's (b), your Honor. 103(a)  
24 is the one about lawful use.

25           **THE COURT:** Let me read it out loud.

1 "The copyright in a compilation or a  
2 derivative work" --

3 **MR. BABER:** Your Honor, can I pause just a second  
4 because this is -- this is one of the --

5 **THE COURT:** You're saying I can't understand this if  
6 I read it, so you've got to explain it?

7 **MR. BABER:** No, no. I just want to --

8 **THE COURT:** Hang, hang on.

9 "The copyright in a compilation or a  
10 derivative work extends only to the material  
11 contributed by the author of such work as  
12 distinguished from the preexisting material  
13 employed in the work and does not imply any  
14 exclusive right in the preexisting material."  
15 Is that your point?

16 **MR. BABER:** That is absolutely our point.

17 And the next sentence as well goes on, your Honor, to  
18 say that by including it in the compilation that in no way  
19 extends, affects, has any bearing on the copyright that already  
20 exists in the stuff that was in the prior versions.

21 **THE COURT:** Well, how does that apply here?

22 **MR. BABER:** It applies here. And what that means,  
23 your Honor, is in the absence of proof by the plaintiff as to  
24 which portions of the collective work it is the author of and  
25 that it owns, the only thing the copyright includes is the

1 protection for the whole thing as a collection, not any of the  
2 underlying elements.

3           So this new theory that they put forward about it  
4 being a collective work, technically it doesn't affect  
5 ownership. We acknowledge they own these registrations, but we  
6 think it has a significant effect on what those registrations  
7 can even arguably cover in terms of stuff that's inside the  
8 collection.

9           Because the way copyright law works -- this is  
10 something that they cleaned up in the 1976 Act -- is this issue  
11 of what happens when a copyrighted work includes something that  
12 was out there before. And they have two categories of that.  
13 One is a derivative work, and the other is this notion of a  
14 compilation.

15           And this section 103(b), Congress said when they put  
16 103(b) in place is they said, this is to clarify the law. The  
17 law under the old statute, which was the 1909 Act, that had a  
18 specific provision that said that if you've got a collective  
19 work, you own everything in all the underlying elements.

20           **THE COURT:** Yeah, but I thought you said that Oracle  
21 said it was --

22           **MR. BABER:** A collective work.

23           **THE COURT:** (Continuing) -- a collective work, but  
24 the statute says compilation.

25           **MR. BABER:** Go to Section 101, your Honor. There are

1 definitions of both "collective work" and "compilation." At  
2 the end of the "compilation" definition says, "Compilation  
3 includes collective work."

4 **THE COURT:** Are these in alphabetical order?

5 **MR. BABER:** They are, your Honor.

6 **THE COURT:** True, it does say that. And is a  
7 collective work somewhere defined, too?

8 **MR. BABER:** It is, your Honor. There's a separate  
9 definition right above the one for compilation.

10 **THE COURT:** So what is your point again?

11 **MR. BABER:** The point is --

12 **THE COURT:** How do you know that -- say it again?

13 All right. Assuming it's a collective work, so why  
14 is -- what's the failure of proof?

15 **MR. BABER:** The failure of proof is under 103(b) --  
16 let me back up just a second.

17 Whenever you have a collective work, you have two  
18 possible types of copyright coverage, okay? You always get,  
19 always, copyright rights in the collection you've put together,  
20 what the statute calls the selection arrangement of the  
21 elements that you've brought together to make up the collective  
22 work. You always get that. We agree that they have that as to  
23 the platforms as a whole that are registered. There is no  
24 issue as to that.

25 But the copyright law also says, but if you want to

1 claim copyright in the individual parts of the collection, you  
2 only get that if you are the author of the individual parts.

3 Just for example here, some of these API packages --

4 **THE COURT:** All right. I understand. Where did this  
5 licensing about licensed-in come from?

6 **MR. BABER:** Right off the copyright registrations,  
7 your Honor.

8 **THE COURT:** Both of them?

9 **MR. BABER:** Both of them.

10 **THE COURT:** All right. Let me hear -- okay. That's  
11 the short version.

12 Let me hear from Mr. Jacobs. What do you say in  
13 response to this? This is a pretty important point, if it has  
14 validity.

15 **MR. JACOBS:** I'd say that, first of all, this is the  
16 first we've heard of it and we have been litigating this case  
17 for a considerable period of time without any ownership issue  
18 being raised, except as to that reduction, you'll recall, from  
19 the 51 packages to the 37 packages. So we're well into the  
20 case to learn that they are going to claim that they are that  
21 as -- that they're going to claim that as to any of the  
22 packages we don't have -- of the 37, that we don't have  
23 ownership.

24 Now, there are a lot of ways you can get ownership  
25 under the Copyright Act. You can be the author. You can be

1 the author by virtue of it being a work for hire. You can be  
2 the owner by virtue of assignment. All of those are bases for  
3 ownership that they could have challenged at any time. Nothing  
4 that we registered takes away or derogates from any ownership  
5 that we have.

6 So the -- so if they were challenging -- I'm really  
7 not sure where this argument goes.

8 **THE COURT:** Well, I think what is -- as I get the  
9 argument anyway, the argument is that the registrations  
10 themselves use the phrase "licensed-in" and, therefore, that  
11 evidently means that some of the work was done by somebody  
12 else, but it's included as part of a collective work.

13 Then the statute says that you do not get the rights,  
14 copyrights in the individualized licensed-in. You can't stop  
15 somebody else from using that, but you can stop them from using  
16 the work as a whole. I think that's the argument.

17 If you're not prepared on this, I think it's best to  
18 postpone this, but, you know --

19 **MR. JACOBS:** I think I'm prepared this far, your  
20 Honor. We're not arguing about 30- -- in the 37 packages we're  
21 not arguing about any licensed-in material.

22 **THE COURT:** How do we know that?

23 **MR. JACOBS:** Well, because we have been litigating  
24 those packages for a year and a half and whether or not we  
25 had -- whatever the registration covered, if there was a cloud

1 on ownership of any of those packages and their associated  
2 APIs, we would have heard about it by now. These registrations  
3 have been out there for the length of the case.

4 **THE COURT:** Unless they were lying in the weeds or  
5 just discovered it. You know, I -- if there is an  
6 interrogatory somewhere where you said, "Do you contest  
7 ownership?" You know, maybe they are bound by some  
8 interrogatory answer, but if they -- I don't want to start  
9 giving -- I'm talking off the top of my head. I want to come  
10 to a different point though.

11 Yesterday I said your Rule 50 motion could be made  
12 late, but it ought to be made. It ought to be made today. So  
13 are you prepared to make your Rule 50 motion now or in writing  
14 sometime today?

15 **MR. VAN NEST:** Your Honor, I think we will reserve  
16 until the end of all the evidence.

17 **THE COURT:** Well, but you can't do that. Because  
18 one function of a Rule 50 motion is it be made at the end of  
19 the plaintiff's case so that they can reopen if there is a way  
20 to cure the gap.

21 So you can reserve, but if you do, then I have to let  
22 them reopen if it's something I would have done anyway at the  
23 end of the plaintiff's case.

24 So if this is a -- if this is an easy-to-cure point,  
25 I would let them reopen to prove up what "licensed-in" means.



1 I can't just let this lie in the weeds. That would not be  
2 fair.

3 **MR. VAN NEST:** Your Honor, we will confer and if  
4 we're going to file something, we'll get it on file first thing  
5 in the morning before their rebuttal case begins.

6 And we understand your Honor's ruling that if --

7 **THE COURT:** How about midnight?

8 **MR. VAN NEST:** Midnight it is. Midnight it is.

9 **THE COURT:** All right. File your Rule 50 motion by  
10 midnight.

11 **MR. BABER:** And just one last comment, very small,  
12 your Honor.

13 **THE COURT:** Yes.

14 **MR. BABER:** Mr. Jacobs said this is a surprise. As I  
15 started when I said, two weeks ago they said it's not a  
16 compilation. This Monday they said it's a collective work, in  
17 their brief this Monday.

18 **THE COURT:** Well, would this argument have been  
19 inadmissible until Monday? In other words, are you saying that  
20 the first time this thought ever entered your mind was this  
21 last Monday?

22 **MR. BABER:** No. Of course not, your Honor, but we  
23 assumed that they realized the consequences of claiming it's a  
24 collective work, both the implications because of how they  
25 actually registered it and the legal consequences under 103(b).

1 We assumed they were just going to rely on the copyright  
2 registration on its face and then just argue, "Well, we're only  
3 picking out elements that come from the whole thing together."

4 They could have done that, but they chose to come  
5 forward on Monday in their brief and said, "You should treat it  
6 as a collective work." And that has some significant  
7 implications under the statute.

8 **THE COURT:** All right. Well, thank you for the  
9 heads-up.

10 Now it's time to bring the jury in am resume. Can we  
11 do that?

12 **MR. VAN NEST:** Your Honor, we need to get a witness  
13 here. Just give us a moment. He's here in the building.

14 **THE COURT:** Where is he? In some sort of red carpet  
15 room? He ought to be right out there in the hallway like  
16 everybody else.

17 **MR. VAN NEST:** He's in the hallway.

18 **THE COURT:** Let's bring him in.

19 **MR. VAN NEST:** This is a witness who was here, and  
20 interrupted, and then back. But he's here. He's in the  
21 hallway.

22 **THE COURT:** All right. We'll bring the jury in. How  
23 much longer do you have on your examination.

24 **MR. VAN NEST:** I think about 45 minutes, your Honor;  
25 45 minutes to an hour.

1           **THE COURT:** Please.

2           (Jury enters courtroom at 8:01 a.m.)

3           **THE COURT:** Okay. Welcome, please be seated.

4           I notice that some of you are wearing parkas.

5           (Laughter.)

6           **THE COURT:** And I do keep it slightly cooler in here,  
7 but there is a reason; and that's so it will be more  
8 comfortable in the long run. With so many people in here, the  
9 body heat will warm it up and it also helps us stay awake. So  
10 that's the reason. You're entitled to wear a parka if you  
11 want. This is still America. Good for you.

12           All right. You will remember on the stand is  
13 Mr. Rubin, who I have been informed that counsel has about 45  
14 minute to go on his examination, and then we will turn it over  
15 for cross-examination.

16           I'm also informed by the lawyers -- and we can't hold  
17 them to this, but they think all of the evidence will be done  
18 this week. So this is Wednesday. So all of the evidence will  
19 probably be done by Friday. We don't know for sure, but  
20 probably. And that means that most likely on Monday we will  
21 have closing arguments on this phase of the trial, and then we  
22 go into the phase that deals with the patents. Of course,  
23 after you -- you would have to spend several days to  
24 deliberate. It's up to you how long to deliberate. It could  
25 be one day, half a day, all week. It's up to you. You

1 determine that yourself.

2 But I want to give you the heads-up that usually when  
3 the juries start to deliberate, they don't go home at 1:00.  
4 They stay into the afternoons, but they don't have to. They  
5 could go home at 1:00 if they want. You set the schedule that  
6 suits you. But usually in order to move things along, the  
7 juries like to stay past 1:00 o'clock.

8 So I suggest to you that you consider whether you  
9 would be available on Monday to stay -- maybe Tuesday as well,  
10 to stay past 1:00 o'clock. Then in due course we will have a  
11 discussion about what the schedule will be, but you might start  
12 turning that idea over in your mind and seeing if your calendar  
13 would let you do that.

14 Okay, but that's next week. Right now we're still in  
15 Wednesday of this week. And we are still in the middle of Mr.  
16 Rubin's testimony.

17 Mr. Van Nest, the floor is yours.

18 **MR. VAN NEST:** Thank you, your Honor.

19 **ANDY RUBIN,**

20 called as a witness for the Defendant herein, having been  
21 previously sworn, resumed the stand and testified further as  
22 follows:

23 **DIRECT EXAMINATION RESUMED**

24 **BY MR. VAN NEST:**

25 **Q.** Good morning, Mr. Rubin.

1 A. Good morning.

2 Q. My first question is whether you heeded my admonition not  
3 to drink any coffee this morning?

4 A. I did a half cup this morning.

5 Q. I want to return to where we were in your testimony  
6 yesterday.

7 Negotiations with Sun ended sometime in 2006?

8 A. Initial negotiations, yes.

9 Q. And the Android team was going forward to build Android?

10 A. That's right.

11 Q. You had given some instructions to the team as to what to  
12 do and what not to do?

13 A. That's right.

14 Q. And you had engineers at Google working on the platform?

15 A. That's right.

16 Q. Can you tell us, where did the technology in Android come  
17 from?

18 A. Well, we kind of assembled it. We wrote code ourselves,  
19 obviously.

20 THE COURT: Can you speak more into the -- it's okay.  
21 You need to move a little bit to your left in order to pick up  
22 your voice better.

23 THE WITNESS: Okay.

24 THE COURT: Because when you look at the jury, which  
25 is fine, you're turning away from the mic and your voice trails

1 off.

2 **THE WITNESS:** Got it, okay.

3 **A.** So in developing Android we kind of assembled it from  
4 various pieces. Obviously, there was a big contribution by the  
5 Google engineers and we also were customers of Open Source  
6 software ourselves. Like the Linux operating system is a part  
7 of Android.

8 And then the third way we assembled it is we actually  
9 partnered with companies that were members of the Open Handset  
10 Alliance and we, you know, paid these companies for  
11 contributions back into Android.

12 **Q.** So let me break that down a little bit.

13 You said that Google was a customer of some Open  
14 Source projects. What did you mean by that?

15 **A.** Not only did we contribute work to Open Source, but we  
16 also received work from Open Source. Again, open source is  
17 something that's freely available.

18 So when we went kind of shopping to assemble the  
19 pieces of Android, we, you know, plucked various Open Source  
20 projects into it to help us accelerate our schedule.

21 **Q.** And then you mentioned that in some cases you paid  
22 companies to have them contribute. Can you explain -- can you  
23 give the jury an example of that and tell them what you mean?

24 **A.** Sure. You know, to do video on a cell phone so you could  
25 watch a YouTube video, you need technology to decode the video

1 in its file format. And rather than have our engineers go and  
2 reimplement that, we found a company called Packet Video that  
3 had a well-known implementation for cell phones of video  
4 decoding. So we paid Packet Video to contribute that  
5 implementation into the Android Open Source project.

6 **Q.** And when the work was all done, did Google create a  
7 graphic representation of the Android platform?

8 **A.** Yes. When -- actually, even during our presentations  
9 internally, we started kind of building a graphic  
10 representation of the architecture.

11 Obviously, it evolved over time with each release of  
12 the software platform. It got -- you know, components kind of  
13 got added to the architecture.

14 **Q.** Let me show you what's been marked and it's in evidence  
15 43.1.

16 (Demonstrative displayed)

17 **Q.** Do you recognize 43.1, Mr. Rubin?

18 **A.** Yes. That's a version of our architectural diagram.

19 **MR. VAN NEST:** I wonder, your Honor, can I ask Mr.  
20 Rubin to describe 43.1 from here? It will be a little easier.

21 **THE COURT:** Yes. You need to keep your voice up.  
22 You need to go down and we'll give you the pointer.

23 Where did the pointer go, Dawn?

24 **THE CLERK:** It's over here.

25

1 (Whereupon pointer was tendered  
2 to the witness.)

3 **THE COURT:** The reason you use the pointer is so that  
4 you will be and the jury will be able to see what you're  
5 referencing.

6 **BY MR. VAN NEST:**

7 **Q.** So let me start --

8 **THE COURT:** It's a little crowded in there.

9 **MR. VAN NEST:** I want to be sure everybody can see  
10 it.

11 **THE COURT:** Yes. Why don't you come stand over here?

12 **MR. VAN NEST:** Me?

13 **THE COURT:** You, the lawyer.

14 **MR. VAN NEST:** Okay.

15 **THE COURT:** So the witness can perform right there.

16 Are you comfortable there, Mr. Rubin?

17 **THE WITNESS:** Relatively comfortable.

18 (Laughter.)

19 **THE COURT:** All right. So keep your voice up.

20 And, Mr. Van Nest, you, as well, must keep your voice  
21 up since neither of you are using a microphone. We'll try it  
22 and see how it goes.

23 **MR. VAN NEST:** We'll try to do that.

24 **BY MR. VAN NEST:**

25 **Q.** So, will you tell the jury generally what's represented on



1 Exhibit 43.1, Mr. Rubin?

2 **A.** So we have basically all the main components of the  
3 platform. There's stuff here that's admitted.

4 Like, we have "..." to say there could be lots of  
5 applications on top of the platform. But generally from the  
6 bottom up we have all the components of the platform. It's  
7 essentially everything you need to build a cell phone.

8 **Q.** And let's start at the bottom. Can you describe for the  
9 jury what's represented there within the Linux kernel. What is  
10 that and where did it come from?

11 **A.** Sure. So this red area (indicating) is the contribution  
12 we got from Open Source. That's the Linux kernel. It's the  
13 part of the Linux operating system that talks to the hardware.

14 So if you look at this architectural diagram from the  
15 top all the way down, below the Linux kernel is the chips that  
16 run your cell phone. So it goes from software to hardware at  
17 this line (indicating).

18 **Q.** All right. And how about above the Linux kernel -- let me  
19 back up.

20 Linux kernel, you said, is open source. What does  
21 that mean?

22 **A.** That means it's available under an Open Source license.  
23 The license Linux people chose was GPL.

24 **Q.** Did you modify the Linux software to use it in Android?

25 **A.** We did.

1 Q. And that was done by Google engineers?

2 A. It was.

3 Q. How about the libraries above?

4 A. Okay. So libraries in the green area here (indicating),  
5 these are various native code libraries. In other words, they  
6 are not written in Java. They are written in some other  
7 language, like C or C++. And these are some of the libraries  
8 that we wrote ourselves, or that we partnered with companies to  
9 contribute to Android, or there are other Open Source projects.

10 Q. Now, let me just stop you there. Our jurors heard a lot  
11 about Java API libraries. Is that what we're looking at here  
12 on the left?

13 A. No, no. The stuff in green is not Java.

14 Q. It's not even written in the Java language?

15 A. That's correct.

16 Q. Okay. So can you give us two or three examples of open  
17 source contributions here in the libraries?

18 A. Sure. SKLite is an open source data base. So if you want  
19 to store a contact on your cell phone in your address book, it  
20 would be stored using this software on the file system of the  
21 phone.

22 Another example is FreeType. It's actually an Open  
23 Source project that allows you to draw font on your phone. So  
24 when you send and receive an email, the actual text that you  
25 type in the keyboard is drawn by the FreeType.

1 Q. And what about OpenGL on the left?

2 A. OpenGL is a library that allows 3D graphics. So if you're  
3 a game player and if you're playing a game that has a 3D world,  
4 it probably will be rendered in OpenGL.

5 Q. And WebKit what is WebKit?

6 A. WebKit is an Open Source project. It's the engine that  
7 runs web browsers.

8 Q. Let's go up the stack to the next layer. That's called  
9 Application Framework?

10 A. Yes. The blue area at this line here is the Application  
11 Framework.

12 Q. Mr. Rubin, excuse me. Let me go back to the libraries.  
13 Were there any in there in which Google paid for technology?

14 Can you give the jury of couple of examples in the  
15 libraries where Google paid for technology as part of Android?

16 A. Sure. So an example of a contribution that we paid for  
17 and a company contributed their proprietary code to Open Source  
18 is the media framework. That's Packet Video, as I described  
19 before. So this is the thing that will play a music file or  
20 play a video file and make sure that it looks good on the  
21 screen.

22 **THE COURT:** Please keep your voice up.

23 **BY MR. VAN NEST:**

24 Q. Okay. Let's go up to the Application Framework, Mr.  
25 Rubin. What is that?

1 A. The application framework is basically a toolbox that  
2 third-party developers who are writing applications, the things  
3 up here (indicating), can use to enhance their application.  
4 And all the -- all the boxes in blue are now written in the  
5 Java programming language.

6 Q. And who wrote those?

7 A. These are primarily -- this, the application framework was  
8 primarily written by Google.

9 Q. And Google engineers in-house?

10 A. That's correct.

11 Q. And what role does the application framework play in the  
12 stack overall?

13 A. As I mentioned, it's the toolbox that's available for  
14 third-party developers, but, you know, Google identified this  
15 unique opportunity, right? The unique opportunity was to  
16 provide a toolbox that was appropriate for smart phones.

17 So these, these boxes gave application developers the  
18 technology necessary to make their applications run on a  
19 smart phone.

20 Q. And are there APIs in that layer called Application  
21 Framework?

22 A. Yeah. Generally the way this kind of stacks up is at each  
23 line here there's APIs, and it goes up. So -- so things  
24 typically call down into the stack.

25 Remember, the hardware is underneath Linux, so Linux

1 talks to the hardware. The libraries talk to Linux. The  
2 application framework talks to the libraries and so forth.

3 Q. And why do you need APIs at each level in the stack?

4 A. They are the interfaces by which these different levels  
5 communicate.

6 Q. Okay. And let's go up to the applications layer. What's  
7 up there?

8 A. These are your applications. These are the things that  
9 users interact with. When you want to add a contact to your  
10 address book, when you want to make a phone call, when you want  
11 to browse the web. And there's many more applications than  
12 that are listed here.

13 Q. And is there Google work in the applications layer as  
14 well?

15 A. Yes, absolutely. Pretty much every icon that chips on a  
16 generic phone were applications that were written by Google.

17 Q. Now, if you could just step to the right a little bit and  
18 tell us what's in the area called Android Runtime?

19 A. Okay. So this is -- again, we have a layering effect  
20 here. So we have the Dalvik virtual machine, and the color is  
21 yellow, which means it's not written in Java. It's written in  
22 native code.

23 Q. Who wrote the Dalvik virtual machine?

24 A. The Android team at Google.

25 And then on top of the Dalvik virtual machine are the

1 core libraries that were in discussion about -- they are the  
2 libraries that are written in Java.

3 Q. And so in the core libraries, those are the Java API  
4 libraries we have been hearing about?

5 A. Yes. They are the libraries that make themselves  
6 available to the layer above, which is the application  
7 framework.

8 Q. Okay. Now, could you describe that in a little more  
9 detail? What interaction is there between the application  
10 framework and the core libraries?

11 A. Again, you know, the purpose of libraries, whether they  
12 are native libraries or core libraries written in Java, is to  
13 provide services to the layer above.

14 Q. And how do they do that?

15 A. Through these definitions of these APIs, which are the  
16 interfaces, you know, between the line above and the line  
17 below.

18 Q. So do the items in the application framework depend on  
19 APIs in the core libraries?

20 A. I'm sorry. Can you ask it again?

21 Q. Do they communicate with the APIs in the core libraries?

22 A. Yes. That's the mechanism by which these layers  
23 communicate.

24 Q. And how many core libraries are there?

25 A. There's approximately, you know, a little over 50 core

1 libraries in total that are written in Java.

2 Q. And I take it there is source code implementations in  
3 those core libraries?

4 A. Yes, absolutely.

5 Q. And who wrote that?

6 A. A variety -- it came from a variety of sources. Primarily  
7 it was a combination of Google, Noser Engineering, who we  
8 talked about earlier, and contributions from the Apache Harmony  
9 project.

10 Q. All right. And so Noser, Apache Harmony and original  
11 Google, that's what wrote -- who wrote the code in the core  
12 libraries.

13 A. That's correct.

14 Q. And the APIs, the API specifications in the core  
15 libraries, where do they come from?

16 A. They come from the same contributors, depending on who  
17 wrote the implementation.

18 Q. Okay. Thank you, Mr. Rubin.

19 (Witness resumes stand.)

20 Q. Can you give us some sense of how long it took to do the  
21 work necessary to complete this platform?

22 A. Well, from inception until completion for what I'm calling  
23 1.0 is when we first shipped in 2008, it took approximately  
24 three years, maybe a little more than three years.

25 Q. So you started sometime in 2005?

1 A. That's right.

2 Q. And we've heard about the SDK release in 2007. Was all of  
3 this work done by then?

4 A. No, it wasn't complete. The -- what we announced and  
5 released in 2007 wasn't everything that was necessary to run a  
6 phone. It was only a minimal set of things that were necessary  
7 for third-party developers to start their work.

8 So, for example, if Electronic Arts wanted to write a  
9 game and they wanted to make that game available when the first  
10 phones shipped, they would need the SDK in order for them to  
11 write their games. So we kind of gave people a head start, a  
12 one-year head start when we released the SDK in 2007.

13 Q. And the head start was so that developers could start  
14 writing applications?

15 A. Yes.

16 Q. And how do the developers use the core libraries to write  
17 their applications?

18 A. Well, if, you know, the application has a need for a  
19 function that's provided by the core library, they will, you  
20 know, key in their -- the description of the core library.  
21 They will call into the core library through their application  
22 and then -- and then the core library will do its job.

23 Q. And when you say "the core library will do its job," what  
24 do you mean?

25 A. I mean the implementation of that API specification will



1 actually execute the function that was intended when the  
2 third-party developer keyed in the API.

3 **Q.** And for application developers working with Android, are  
4 they all writing in the Java language?

5 **A.** Primarily in the Java language. We do have support -- one  
6 thing I should mention is in order to write an application, you  
7 have to write it in the Java programming language for Android,  
8 but there are ways that an application can -- it doesn't have  
9 to call into the core libraries. It can call directly into the  
10 libraries that are in green there if it wants to.

11 And the reason we did that is, for example, someone  
12 that had written software before Android existed, they would --  
13 they could potentially be required to rewrite all of their  
14 software because it wasn't originally written in Java.

15 So what we wanted to do is we wanted to provide a  
16 mechanism by which developers could take their existing code  
17 and have it kind of work with Java so they could just basically  
18 bolt it on and then go forward writing in Java.

19 **Q.** Why did you want to do that?

20 **A.** There was a bunch of legacy applications. For example, if  
21 I want -- you know, if Electronic Arts had previously had a  
22 game that was successful before Android existed, we wanted that  
23 game to be able to run on Android as well.

24 **THE COURT:** If it was written -- there may have been  
25 an error in the transcript.

1 Are you talking about programs that were previously  
2 written in Java or that were not previously written in Java?

3 **THE WITNESS:** That were not previously written in  
4 Java.

5 **THE COURT:** Then the transcript was correct. All  
6 right.

7 **THE WITNESS:** I'll slow down a little bit.

8 **THE COURT:** Okay.

9 **BY MR. VAN NEST:**

10 **Q.** How many engineers at Google worked on the Android  
11 platform during this period from '05 to '08?

12 **A.** Well, we started with -- you know, we were only eight  
13 people when we got acquired, and I think four or five of those  
14 were actual engineers. And then over the process of the  
15 development of the platform, we hired a bunch of people. By  
16 the time we shipped Version 1.0 in 2008, there were about 85 or  
17 90 engineers on the project.

18 **Q.** And did that number continue to grow from 2008 on?

19 **A.** Yes. It continues to grow.

20 **Q.** Can you give the jury an estimate of how many lines of  
21 source code were written or contributed to make up the whole  
22 stack?

23 **A.** So, yeah. I mean, it's not done. It's always evolving  
24 and it's always getting bigger. Every time somebody comes into  
25 work, they are adding functionality to the platform.

1           So currently if you take that whole stack from, you  
2 know, the bottom to the top, there's about 15 million lines of  
3 source code.

4 **Q.** And approximately how many code files would it take to  
5 make up the entirety of the platform?

6 **A.** Independent files, I don't know. It's going to be many  
7 thousands of independent files.

8 **Q.** Now, you mentioned that some of the source code in the  
9 core libraries came from Apache Harmony. Would you tell the  
10 jury, what is Apache Harmony?

11 **A.** Apache Harmony is an Open Source project. It's -- it was  
12 supported by the Apache Software Foundation, which is a  
13 corporate entity, and the goal was to create a clean room  
14 implementation, an Open Source implementation of the Java class  
15 libraries.

16 **Q.** Did Apache Harmony exist before Android did?

17 **A.** Yes, it did.

18 **Q.** And how does -- how did Google go about getting access to  
19 the source code in Apache Harmony?

20 **A.** It's open source. That's what's magical about all this.  
21 All the engineers had to do was go to [www.apache.org](http://www.apache.org), click the  
22 download button, and they had the source code for, you know,  
23 the J2SE compatible clean room implementation.

24 **Q.** And at the time you were designing Android were you aware  
25 of other companies that were making commercial products based

1 on Apache Harmony?

2 **A.** Yeah. I mean, well, the Apache Software Foundation itself  
3 used it. It had many projects underway and one of them is a  
4 very popular web server called the Apache Web Server. And its  
5 Java app engine, the things that allows the web server to run  
6 Java applications, was a customer of Apache Harmony.

7 **Q.** Were there other well-known commercial companies using  
8 Harmony?

9 **A.** Well, I think certainly everybody that ended up using  
10 Android became a customer of Harmony through the open source  
11 effort.

12 **Q.** Were there others? For example, IBM?

13 **A.** IBM was both a customer of Harmony and, also, a  
14 contributor. When the Apache project started, IBM was a very  
15 prolific contributor to the open source effort.

16 **Q.** Were there others?

17 **A.** I'm sure there were many. I -- I don't know them off the  
18 top of my head.

19 **Q.** Now, what did you know about Apache Harmony and its  
20 relationship to Sun back in 2005 and '06 when you were  
21 developing Android? Did Apache have a license from Sun, for  
22 example?

23 **A.** I didn't know directly, but, you know, the -- what people  
24 were saying about the project were it was -- didn't have a  
25 license with Sun.

1 Q. You mentioned the Apache license a couple of times.

2 What's the Apache license?

3 A. So, the Apache Software Foundation also has their own  
4 version of an Open Source license. It's small legal document  
5 that basically describes your rights as a customer of this Open  
6 Source project.

7 Q. Was Apache using the Java language APIs?

8 A. Yes. I mean, the whole -- the whole purpose of that  
9 project was to implement a clean room implementation of the  
10 Java language APIs.

11 Q. So they were using the specification, the API, but they  
12 had written their own source code?

13 A. That's correct. They wrote their own implementation.

14 Q. And some of that source code is what you used in some of  
15 the core libraries in Android?

16 A. Yeah. It was a huge benefit to Android because we didn't  
17 have to do our own versions of all the libraries that they  
18 produced.

19 Q. And while you were developing the platform, did you  
20 believe that you needed a license to use the Java language  
21 APIs?

22 MR. BOIES: Objection, foundation.

23 THE COURT: Well, I'm going to let the witness answer  
24 the question.

25 But you must remember he's not a lawyer and, as I

1 understand it, you're saying there was never any advice of  
2 counsel.

3 **MR. VAN NEST:** That's right, your Honor.

4 **THE COURT:** So he can give his -- not what he  
5 believes now, but what he understood back then.

6 **MR. VAN NEST:** That's right.

7 **THE COURT:** That's what the question calls for. And  
8 as long as the jury understands it's not a legal opinion, but a  
9 lay opinion as it existed back then, the question will be  
10 allowed.

11 Please answer the question.

12 **A.** I'm sorry. Can you reask the question?

13 **BY MR. VAN NEST:**

14 **Q.** Yes, yes.

15 Back in the day when you were developing the Android  
16 platform, did you believe you needed a license from Sun to use  
17 the Java language APIs?

18 **A.** Well, no. Specifically we, you know, used some of the  
19 APIs that were developed by the Apache Software Foundation and,  
20 obviously we, you know, agreed to their Open Source license,  
21 but we did not believe that we needed a license from Sun.

22 **Q.** Now, you mentioned -- you were asked, I think, was it  
23 yesterday or maybe the day before, about a company called  
24 Noser. Who is Noser?

25 **A.** Noser is one of the companies that we contracted with, you

1 know, and paid to make contributions to the Android open  
2 platform.

3 Q. Where is Noser located?

4 A. I believe they are primarily a Swiss company.

5 Q. And did you enter into an agreement with Noser?

6 A. Yes. We -- we had a contract between Google and Noser.

7 Q. I'd like to show you Exhibit 2765. I believe this is in  
8 evidence.

9 (Whereupon, document was tendered  
10 to the witness.)

11 Q. While we're checking, do you recognize 2765?

12 A. Yes, I do.

13 Q. What is it?

14 A. It's a standard Google agreement called an In-Bound  
15 Services Agreement. It comes in two parts. There's the, you  
16 know, kind of legal contract up front, and then there's an  
17 amendment called a Statement of Work.

18 Q. Did you negotiate the contract with the folks at Noser?

19 A. Yes, I did.

20 MR. VAN NEST: I'd offer 2765 in evidence, your  
21 Honor.

22 THE COURT: Any objection?

23 MR. BOIES: I'm just trying to compare this with the  
24 Trial Exhibit 30, which is the Noser contract.

25 I don't have any objection. I think it may be

1 duplicate.

2           **THE COURT:** Thank you. Received in evidence.

3           (Trial Exhibit 2765 received in evidence)

4 **BY MR. VAN NEST:**

5 **Q.** Take a look --

6           **MR. VAN NEST:** Can we go to Page 10?

7           (Document displayed)

8           **MR. VAN NEST:** Let's see. Yeah.

9 **BY MR. VAN NEST:**

10 **Q.** What is depicted -- let me back up a minute. Why would  
11 you enter into a contract with someone like Noser?

12 **A.** We were trying to accelerate the development of the  
13 project. We needed, you know, engineers that could implement  
14 the clean room implementation of some of these libraries to  
15 basically complete what was already in Apache Harmony. And we  
16 didn't want to hire these people full time because once it was  
17 done, it was done and we wouldn't have any additional work for  
18 them.

19 **Q.** So this was a subcontract that was going to help you get  
20 the platform up and running?

21 **A.** That's correct.

22 **Q.** And you gave them instructions on what to do?

23 **A.** Yes.

24 **Q.** Those are set forth in the agreement?

25 **A.** That's the purpose of the Statement of Work.



1 Q. You wanted to be sure they knew what they could do, what  
2 they could do?

3 A. That's right.

4 Q. So we have here on Page 10, "Google will deliver."

5 MR. VAN NEST: Can you go down to the fourth bullet,  
6 "Detailed minimum list"? There we go.

7 (Document displayed)

8 BY MR. VAN NEST:

9 Q. "Detailed minimum list of Packages, Classes and  
10 Libraries."

11 MR. VAN NEST: Let's complete that whole bullet  
12 point.

13 (Document displayed)

14 BY MR. VAN NEST:

15 Q. Tell the jury what is being provided here in the contract?

16 A. Sure. So, the Statement of Work basically has two  
17 sections, and this is -- this is the language that details what  
18 we're asking this company to do and what we're paying for for  
19 this company.

20 So, obviously, in order for them to do their job,  
21 they need information from Google, and that's the section that  
22 says "Google will deliver."

23 The fourth point is, "Detailed minimum list of  
24 Packages, Classes and Libraries which will be defined in terms  
25 of GNU Classpath project," which is another Open Source project

1 related to a clean room implementation of the Java libraries.

2 Q. Let's pause there a minute, Mr. Rubin. GNU Classpath.

3 You passed by that pretty quickly.

4 Who are they?

5 A. So, we mentioned Apache Harmony. They weren't the only  
6 effort trying to create a clean room implementation of the Java  
7 APIs. Actually, there were many efforts underway to do that  
8 and they were uncoordinated efforts. They were separate  
9 entities and separate people doing it.

10 GNU Classpath was another example of someone doing  
11 what Apache Harmony was doing.

12 Q. And by that do you mean that GNU was also using the Java  
13 language APIs?

14 A. They were using the APIs to implement their own  
15 implementation of the functionality.

16 Q. So the APIs they were using were the same that Apache was  
17 using, correct?

18 A. Yeah. I can't say there was a complete overlap. I know  
19 that Apache was doing J2SE, which was the version for desktop  
20 computers.

21 I'm not familiar with the exact target of the GNU  
22 Classpath, if it was identical or if they had a different  
23 target.

24 Q. But they were also open source?

25 A. Yes.

1 Q. You could download their software -- their source code  
2 from a website and use it freely?

3 A. Yes, that's correct.

4 Q. Okay. So GNU Classpath. Then please continue?

5 A. Apache Harmony, which we talked about. And then we gave  
6 them the ability to use "other existing open source libraries"  
7 that -- you know, basically those things helped them define the  
8 specification of what they were to do.

9 Q. Now, going to the next page.

10 (Document displayed)

11 Q. Did you give them a list of an approved sources of source  
12 code for the project?

13 A. Yes. So what we did is we realized that a lot of their  
14 work would be based on existing open source work, so we gave  
15 them the freedom to go and tap into that open source work to  
16 basically act as a starting point for their work.

17 MR. VAN NEST: On Page 11, let's highlight the top  
18 paragraph, please?

19 (Document highlighted)

20 BY MR. VAN NEST:

21 Q. And can you run down for the jury what the an approved  
22 sources of code were for Noser?

23 A. Sure. So we gave them some, you know, discretion here,  
24 but we basically said:

25 "They can choose to use any or all of the

1 following strategies to arrive at a working  
2 complete and compliant source base."

3 So they could obviously reuse and improve the code  
4 that we delivered to them.

5 Q. So, in other words, Google was giving them code to make  
6 better?

7 A. Yes. So our engineers had started our clean room  
8 implementation and we made that implementation available to  
9 them in the current state which was, you know, not complete.

10 Q. All right. What else could they do?

11 A. Then they could, basically, do the same thing. Improve  
12 and import code that came from the Apache Harmony project, the  
13 open source project that we talked about. So they could be  
14 customers of this open source project as well.

15 Q. And they would go to the website, just like anybody else,  
16 and download the code and work with that?

17 A. Yes. And I should be clear that we favored the Apache  
18 Harmony project, because the Apache license, the open source  
19 license that they developed that governed their work, was also  
20 the open source license that we chose to govern the Android  
21 platform.

22 Q. Then there's a reference to Bouncy Castle. What's Bouncy  
23 Castle?

24 A. Yet, another open source project related to Java  
25 implementation.

1 Q. All right. And did they have two other sources from which  
2 they could draw?

3 A. Yes. Obviously, they could -- they were allowed to use  
4 any code from open source projects, but it was -- we had a  
5 restriction that it had to be with Google's prior approval.  
6 And the reason we do that is we wanted to make sure that the  
7 Open Source projects, you know, were clean and, also, that they  
8 had compatible Open Source licenses.

9 And finally, obviously, they could from scratch just  
10 decide to write their own code.

11 Q. Okay. And after this lawsuit got underway, did you learn  
12 that some of the code in Android was accused of being copied?

13 A. Yes. First time I heard, you know, anybody accuse Android  
14 of copying code was at the inception of this lawsuit.

15 One of the benefits of open source and providing our  
16 work openly and freely is that other people can inspect it.  
17 There is -- there's nothing hidden in our source code. Anybody  
18 can look at it. So when we released the source code in 2008,  
19 the world could inspect it, but the first time I heard of any  
20 violation was at the point of this lawsuit.

21 Q. And do you know now that some of the test files in Android  
22 were generated by Noser?

23 A. Yes. Part of Noser's deliverable not only was to provide  
24 their contributions to the Java libraries, but also to test  
25 their contributions to the Java libraries. So they wrote code

1 specifically to test their work, make sure it was correct.

2 Q. And we've heard about some source code comments in a  
3 couple of files. Did those come from Noser?

4 A. I don't specifically know where they came from. You know,  
5 based on this contract, everything that we're asking Noser to  
6 do was to come from either the sources that we itemized in the  
7 contract or -- or -- basically that's about it.

8 Q. Now --

9 THE COURT: Mr. Van Nest, would you go back to the  
10 one about -- I think it would be useful to identify for the  
11 jury the specific files that you were talking about that were  
12 allegedly copied or discovered in this last three or four  
13 minutes of testimony, because when we come down to the special  
14 verdict form, I think we're going to have specific files called  
15 out. So I think it would be beneficial to the jury to know  
16 what files you're talking about.

17 MR. VAN NEST: Okay.

18 THE COURT: So far it's pretty vague.

19 MR. VAN NEST: Well, I always like to be precise.

20 Can I hand the witness Trial Exhibit 1072, please,  
21 your Honor?

22 THE COURT: Sure.

23 (Whereupon, document was tendered  
24 to the witness.)  
25

1 **BY MR. VAN NEST:**

2 **Q.** Mr. Rubin, there's a list -- take a look at 1072. You've  
3 probably never seen that before?

4 **A.** No, not this list.

5 **Q.** All right. That's okay. That's okay.

6 There's a list of files at the bottom of 1072. Do  
7 you see that?

8 **THE COURT:** Can the jury see this?

9 (Jurors responding negatively.)

10 **THE COURT:** Is it in evidence yet?

11 **MR. VAN NEST:** It is.

12 **THE COURT:** Let put it the screen for the jury.

13 (Document displayed)

14 **MR. VAN NEST:** So let's highlight the bottom of the  
15 page.

16 (Document highlighted)

17 **BY MR. VAN NEST:**

18 **Q.** Now there's a list of files here that are in evidence.  
19 And let me just start by saying TimSort and comparable TimSort.

20 Do you know whether or not those were two files  
21 written by Josh Bloch, who was a witness here earlier in the  
22 week?

23 **A.** I believe they were written by Josh and later modified by  
24 other engineers.

25 **Q.** Let's pause there and talk about Josh Bloch. Was Josh

1 Bloch part of the original Android team?

2 **A.** No. We brought Josh on, I believe, in 2009, which was  
3 over a year after we launched the first version of Android.

4 **Q.** So the SDK, he didn't have any role in that?

5 **A.** That's correct.

6 **Q.** And the first handset phones that came out in '08, he  
7 didn't have any role in that?

8 **A.** That's correct.

9 **Q.** So he came later?

10 **A.** Right.

11 **Q.** And we heard some testimony from him about TimSort.

12 Now, let's -- all the next eight that have the words  
13 "Impl" in it --

14 **MR. VAN NEST:** Let's go one more. One more down.  
15 Okay.

16 (Document highlighted)

17 **BY MR. VAN NEST:**

18 **Q.** There are eight test files there that we heard some  
19 testimony about.

20 Do you know now that those came from Noser?

21 **A.** I believe the majority of the test files came from Noser.

22 **Q.** Do you have any idea what the volume of code created by  
23 Noser that came in to the Android project? Do you have any  
24 estimate of how many lines of code they wrote overall?

25 **A.** No. I'm -- I'm afraid I don't.



1 Q. Was it thousands? Is it --

2 A. It would be in the thousands. It's certainly quite large.

3 Q. And then let's drop those and go to the bottom two.

4 There are also -- there was also some testimony about  
5 source code comments. What are source code comments, Mr.  
6 Rubin?

7 A. Source code comments are typically human readable  
8 descriptions of what's contained in each file. The engineers  
9 have a tradition of putting these source code comments as  
10 blocks at the top of the files. So when you open up a file in  
11 your word processor or whatever, you can quickly see, you know,  
12 what's supposed to be in it.

13 Q. Are these source code comments compiled with the source  
14 code to become bytecode or not?

15 A. No. It's purely for the purpose of humans that are  
16 reading it, not a machine that's reading it.

17 Q. And is it your understanding that these last two files  
18 where the claim is that the source code comments were copied,  
19 they also came from Noser?

20 A. I believe Noser contributed the last two files as well.

21 Q. All right. Thank you, Mr. Rubin.

22 Now, after the work got underway, was there a big  
23 announcement in the fall of 2007 about Android?

24 A. Yes. In -- in, I believe, October of 2007 that was kind  
25 of our official unveiling of Android. We had a small press

1 conference, it was by telephone, and we announced, you know,  
2 the existence of the effort for the first time. We announced  
3 the purpose of why we were doing this. And eight days after  
4 that original announcement, we made the first SDK available.

5 Q. And what is an SDK?

6 A. As I mentioned earlier, the SDK is the tool that  
7 third-party developers, like Electronic Arts, would use to  
8 develop their application.

9 Before phones are available -- you have kind of this  
10 chicken or egg scenario, right? There are no phones in the  
11 market, so Electronic Arts can't go buy a phone to develop  
12 their game, all right? They need a tool that allows them to do  
13 it before the phone is available. And that's the purpose of  
14 the SDK. It let's them develop their application on a desktop  
15 PC without a phone.

16 Q. Would the SDK have allowed programmers to see all of the  
17 APIs in Android?

18 A. The SDK allowed the programmer to see the APIs that were  
19 in existence at that early date. Obviously, we continue to add  
20 APIs to Android even to this day, so it's always just a  
21 snapshot in time.

22 Q. So would that include some or all of the 51 Java APIs in  
23 Android?

24 A. I believe it would include some of them at that time.  
25 They continue to evolve even as to today.

1 Q. And are there other Android Google APIs above the 51 Java  
2 APIs in Android?

3 A. Yes. Obviously -- I mean, if you look at that description  
4 of that stack, where there is a line separating each one of  
5 those colors, there is a set of APIs representing that layer in  
6 the architectural diagram.

7 Q. Would all of those APIs have been apparent in the SDK as  
8 well? Some or all?

9 A. Yes. Some or all.

10 Q. And at that time could anyone have downloaded the SDK; not  
11 just developers, but companies, competitors, the press,  
12 anybody?

13 A. Anybody could have it. All they needed to do was go to  
14 our website and click the download button.

15 Q. Now, once you announced Android, was there a big buzz in  
16 the industry?

17 A. There was. Obviously, we had a press conference. Press  
18 wrote about it. People listened. We got the word out. I  
19 think it was considered a successful launch.

20 Q. Did one of those comments come from Sun?

21 A. Yes.

22 Q. I'd like you to take a look at Exhibit 2352. It's in  
23 evidence.

24 (Whereupon, document was tendered  
25 to the witness.)

1           **MR. VAN NEST:** Can we display 2352 and highlight the  
2 first paragraph, if we could?

3           (Document displayed)

4 **BY MR. VAN NEST:**

5 **Q.** Do you recognize 2352, Mr. Rubin?

6 **A.** Yes, I do.

7 **Q.** What is it?

8           **MR. BOIES:** Objection, your Honor. Foundation.

9           It's not clear whether he's talking about knowledge  
10 that the witness had back at the time or knowledge he had now.  
11 The witness has testified previously about what knowledge, if  
12 any, he had back at the time.

13           **THE COURT:** You need to stick to -- you didn't write  
14 this document, correct?

15           **THE WITNESS:** That's correct.

16           **THE COURT:** Did you read it back at the time it came  
17 out?

18           **THE WITNESS:** Yes. When it came out, I was referred  
19 to it and I read it.

20           **THE COURT:** Do you remember that?

21           **THE WITNESS:** Yes, I do.

22           **THE COURT:** All right. You can testify as to what  
23 your understanding of things was back then, but, you know,  
24 getting him to testify about his understanding today is just  
25 commentary and editorial comment. So if you stick to the past

1 tense, we'll be okay.

2 **MR. VAN NEST:** That's fine, your Honor. Thank you.

3 **BY MR. VAN NEST:**

4 **Q.** So, Mr. Rubin, you read this back in 2007?

5 **A.** Yes. It came out, you know, the same day or the next day  
6 after, when we had announced Android for the first time.

7 **Q.** And was this a topic of discussion also at Google?

8 **A.** Yes, very much so.

9 **Q.** Were you pleased by the announcement?

10 **A.** By what was written on the blog, sir?

11 **Q.** Yes.

12 **A.** Yes. Obviously, in my many months and years of  
13 negotiating with Sun, this was, you know, full support of what  
14 we were doing with Android and acknowledging that Sun was  
15 supportive of it.

16 **Q.** And were you pleased to see what was stated in the second  
17 paragraph about support for all Java based platforms?

18 **A.** Yeah. I mean, if you -- if you look at it from my  
19 perspective, right, I was, you know, negotiating with Sun and  
20 negotiating with Sun. You know, I did my own clean room  
21 implementation because we couldn't reach an agreement.

22 I launched my stuff. This blog comes out supporting  
23 what I'm doing not only in the sense of congratulating me, but  
24 also in the sense that Sun is actually investing in my platform  
25 to build their products on top of my platform. Like NetBeans

1 that's referenced in the second paragraph.

2 Q. Let's actually catch up to that.

3 MR. VAN NEST: Can we highlight that second  
4 paragraph, please?

5 (Document highlighted)

6 BY MR. VAN NEST:

7 Q. Can you read the portion of that that you're referring to,  
8 Mr. Rubin, and then explain what you meant?

9 A. So basically, you know, if -- you know, Sun had basically  
10 endorsed our Java implementation and they have other tools that  
11 they sell as, you know, they've made the language freely  
12 available and open, and their business is around selling tools  
13 for that. One of the tools is this thing called NetBeans,  
14 which is typically a tool that these developers use to build  
15 their applications.

16 So when -- when Electronic Arts wants to write that  
17 game and they are actually typing in their source code to  
18 create that game, they can use these development tools like  
19 NetBeans to do that.

20 And basically the second paragraph I read to mean Sun  
21 is going to make their developer platform, NetBeans, available  
22 for Android.

23 Q. And what would that mean for application programmers and  
24 Android generally?

25 A. It would make it easier to program for Android. The

1 developers -- you know, this was a community of people that  
2 were familiar with the Java programming language. This was a  
3 mechanism by which the developers could make their job easier.  
4 And the fact that it supported Android, I think, was a benefit  
5 to the whole Java community.

6 Q. Now, just a few months after Mr. Schwartz's posting here,  
7 did you get a visit from some of the folks that you had been  
8 negotiating with at Sun?

9 A. Yes. We were, obviously, still in communication with  
10 them. We would talk occasionally and they would come and  
11 visit. I would go and visit them.

12 Q. And did you receive a visit from Mr. Gupta and others at  
13 Sun?

14 A. Yes.

15 Q. Who is Mr. Gupta?

16 A. Mr. Gupta was one of the business development and, I  
17 think, strategic marketing in technology for the Java Platform  
18 at Sun.

19 Q. And is he one of the people back in '05 and '06 that you  
20 had been negotiating with for a partnership with Sun?

21 A. Yeah. He was, I would say, the main liaison between the  
22 two companies.

23 Q. What was the purpose for Mr. Gupta's visit?

24 A. Well, first, he came to congratulate on us on the  
25 announcement of Android and then he -- he wanted to update us

1 on the state of Java at Sun.

2 Q. And what did he tell you -- first of all, he congratulated  
3 you on Android?

4 A. Yes, he did.

5 Q. And what did he say about Android?

6 A. He -- he said "Congratulations." You know, "It was a  
7 great announcement and we welcome you to the Java community."

8 Q. Did he have something to show you?

9 A. Yeah. What he wanted to talk about, aside from the  
10 congratulations, was he wanted to talk about the state of Java  
11 at Sun and he wanted to demonstrate kind of the next evolution  
12 of Sun's thinking around the Java community.

13 Q. And did he have a product?

14 A. He wanted to talk about an announcement they were going to  
15 make at a trade show around a product called Flex.

16 Q. And what did he tell you about Flex?

17 A. He said that as a company, they were kind of evolving to  
18 the point where they were going to pivot away from Java into  
19 this new environment that they called Flex. It had some  
20 relation to Java, but it also was not Java.

21 Q. Did he describe a product that Sun was developing to work  
22 with Android?

23 A. He indicated that Flex could run on top of Android.

24 Q. And did he indicate whether or not Sun was considering  
25 running Flex on top of Android?



1 A. Yes. He -- he indicated that the work was actually almost  
2 complete to have Flex running on top of Android.

3 Q. Did he tell you that was going to be the subject of an  
4 announcement?

5 A. He -- I think the purpose, one of the purposes of the  
6 meetings was for him to kind of give me a heads-up about an  
7 announcement they were going to make in a couple of days so I  
8 wouldn't be surprised.

9 Q. Was there also a discussion about NetBeans during your  
10 meeting with Mr. Gupta?

11 A. A brief one. I think in general the theme of the meeting  
12 was, hey, congratulations. You had finally launched the stuff  
13 that we had been negotiating over for many years and, you know,  
14 we're trying to -- you know, Sun was working hard to invest in  
15 the platform and put, you know, select products of theirs on  
16 top of the platform.

17 Q. Did he eventually announce his product?

18 A. I believe he did, in the subsequent days following that  
19 meeting.

20 Q. And was that a big deal?

21 A. It was for me. You know, there's, you know, this kind of  
22 groundswell of support coming out for the work that we had been  
23 doing in secret for the many years. And then when we publicly  
24 announced it, you know, we felt a surge of support from the  
25 community, including people at Sun.

1           And indicators of that support, obviously, are these  
2   congratulatory meetings and these blog posts and things like  
3   that, but the real proof of support is investing, making, you  
4   know, financial investments, making engineering resource  
5   allocations in the platform that we built, in this open Java  
6   Platform.

7   **Q.**   Was this an important enough development to let your boss  
8   know?

9   **A.**   I typically, when -- you know, when I get good news in my  
10   in-box, I typically forward it to my boss so he sees the  
11   context of what we're doing as the community sees it.

12   **Q.**   And who was your boss back in 2008?

13   **A.**   At that time his name was Alan Eustace.

14   **Q.**   And who was the big boss above Mr. Eustace?

15   **A.**   There were several. I think Eric Schmidt and, obviously,  
16   Larry Page and Sergey were all senior management at that time.

17   **Q.**   Would you take a look at 3521, please, and tell me whether  
18   you recognize that.

19   **A.**   This is an e-mail that I had sent to Eric, who was at the  
20   time the CEO of Google. And I just had a very brief one-liner  
21   to him that, basically, Sun demo --

22           **MR. BOIES:** Objection, Your Honor. Is this in  
23   evidence?

24           **MR. VAN NEST:** It's not.  
25

1 BY MR. VAN NEST:

2 Q. Let me just back up a moment, Mr. Rubin. This is an  
3 e-mail that you sent?

4 A. Yes, it is.

5 Q. Back in 2008?

6 A. Yes, it is.

7 Q. Do you recognize it?

8 A. Yes.

9 MR. VAN NEST: I'd offer 3521 in evidence, Your  
10 Honor.

11 MR. BOIES: Are these one of the disclosed documents?

12 MR. VAN NEST: I believe so.

13 MR. BOIES: I can't seem to find it.

14 MR. VAN NEST: Would you pull the list, please.  
15 Do we have the list? 3521.

16 THE COURT: Was it disclosed?

17 MR. VAN NEST: While they're looking, Your Honor, can  
18 I ask my next question?

19 THE COURT: If it's on a new subject, okay, go ahead.  
20 But if it's on this subject, let's wait and see --

21 MR. VAN NEST: Okay.

22 THE COURT: -- if it was disclosed.

23 MR. VAN NEST: In any event, let me move on, Your  
24 Honor. I'll come back. I don't want to waste time.

25 THE COURT: All right.

1 BY MR. VAN NEST:

2 Q. So did you have some other meetings following -- this  
3 announcement that we've just been discussing, that occurred at  
4 an event?

5 A. Yes. So the event happened between the time we released  
6 the SDK and the time that we released the first phone based on  
7 Android.

8 Q. Okay. And the event was JavaOne?

9 A. That's correct.

10 Q. That's the big Java developer event?

11 A. Yes.

12 Q. Big public event?

13 A. Yes, their developer conference where they make various  
14 announcements and invite developers who are part of the Java  
15 community to attend.

16 Q. And did you continue to meet following JavaOne on and off  
17 with the folks from Sun?

18 A. Yeah, we -- I mean, we had, in general, an open door  
19 policy. We would talk often.

20 Q. And how often were you talking with folks, Mr. Gupta or  
21 his colleagues?

22 A. I mean, it ebbed and flowed, but probably, you know, every  
23 six months we would touch base.

24 Q. Now, in any of those discussions or meetings with  
25 Mr. Gupta or his colleagues, did anyone ever tell you that they

1 thought you had used Sun's IP in Android?

2 **A.** Not that I recall. The meetings were typically very  
3 positive and embracing.

4 **Q.** And did anyone tell you that you needed a license to do  
5 what you were doing?

6 **A.** No.

7 **Q.** Did anyone tell you they thought that Android or the Java  
8 libraries in Android or the APIs were wrong, or owned by Sun,  
9 or otherwise out of bounds?

10 **A.** No, none of the -- none of the meetings with Sun  
11 subsequent to our announcement talked about any of the -- of  
12 these details.

13 **Q.** So taken together, Mr. Rubin, the statements by  
14 Mr. Schwartz on the blog and the meetings with Mr. Gupta and  
15 the demonstration at JavaOne, did you rely on all these things  
16 in making decisions about Android going forward?

17 **MR. BOIES:** Objection, Your Honor. Foundation and  
18 conclusion.

19 **THE COURT:** He can answer as to himself.

20 You can answer only as to yourself not as to other  
21 people. But, otherwise, the objection is overruled.

22 Please, answer.

23 **THE WITNESS:** Uhm, can you ask the question one more  
24 time?

25

1 **BY MR. VAN NEST:**

2 **Q.** Yes. Taking all these things together -- the statement by  
3 Mr. Schwartz, your meetings with Mr. Gupta, your various  
4 interaction with Sun employees, the demonstration at JavaOne --  
5 did you rely on all these things in making decisions about  
6 Android going forward?

7 **MR. BOIES:** I'll object to that on leading grounds,  
8 Your Honor.

9 **THE COURT:** Well, yes, it's leading. The jury by now  
10 understands what leading is. Do you understand what leading  
11 is?

12 I'm going to let the question stand. And in due  
13 course I will tell you the problem with a leading question.  
14 But I don't want to interrupt the flow right now.

15 So go ahead. Overruled. Please answer the question.

16 **THE WITNESS:** Okay. Yes, you know, based on the  
17 positive support I got from, you know, Sun's media posts as  
18 well as the meetings that we had subsequently to our  
19 announcement, I did, in fact, uhm, you know, come to understand  
20 that this general support was going to be good for my business.

21 **BY MR. VAN NEST:**

22 **Q.** And in reliance on that, what steps, if any, did you take  
23 vis-a-vis Android?

24 **MR. BOIES:** Objection. Leading and states a fact not  
25 in evidence.

1           **THE COURT:** It is leading. What steps, if any. Oh,  
2 you did say, "What steps, if any."

3           **MR. VAN NEST:** I thought I did.

4           **THE COURT:** All right. The magic rules are there.  
5 Overruled.

6           **MR. VAN NEST:** I learn, but slowly.

7           **MR. BOIES:** The very beginning part of it.

8           **THE COURT:** Please answer.

9           **THE WITNESS:** I continued to invest in what our  
10 strategy was from the beginning, which was Java as a  
11 programming language and a clean-room implementation of these  
12 core libraries.

13 **BY MR. VAN NEST:**

14 **Q.** And by continuing investments, what do you mean?

15 **A.** I continued to hire people. We grew. We were still  
16 growing. And I continued to hire engineers to work on the  
17 effort. I continued to have the team that had been dedicated  
18 to the effort, you know, kind of double down and continue to  
19 support Java, the programming language and the libraries.

20           I also invested extensively in building Google  
21 applications in the Java programming language. In this time  
22 frame, things like Google Maps, the application that allows you  
23 to, you know, get mapping information didn't exist. So I had a  
24 whole team focused on, essentially, that top box on that  
25 architectural diagram, developing their applications in the

1 Java programming language.

2 Q. Did you also spend time and money working with your  
3 handset partners?

4 A. Uhm, yes. This was leading up to the release of the first  
5 Android handset, the HTC handset.

6 These partnerships were complex and very broad. It  
7 involved relationships with every handset manufacturer that  
8 was, you know, probably in the top ten or so, whether it's a  
9 Motorola or a Samsung or an LG or an HTC, Sony Ericsson; all  
10 the handset manufacturers that were potential customers of  
11 Android or customers of open source we were working with.

12 Q. And did you at that time -- whoops -- do any investigation  
13 yourself of whether or not it would be feasible to replace Java  
14 language in Android?

15 A. Not at that time. Obviously, based on the positive press  
16 and the positive tone of Sun's interactions, I didn't think  
17 that was necessary.

18 Q. And throughout this period, I take it, Mr. Rubin, you were  
19 still the head of the Android team?

20 A. Yes, I was.

21 Q. And responsible for development of the platform?

22 A. Yes.

23 Q. And for whatever investments Google made in Android?

24 A. The product, the strategy, the business and the  
25 engineering.



1 Q. Now, when did the first Android phone come out? When was  
2 that?

3 A. We launched the HTC G1, it was called, in November of  
4 2008.

5 Q. And when you say "HTC G1," who is HTC?

6 A. HTC is a Taiwanese smart phone manufacturer. They were --  
7 they were significant for me because they actually were  
8 instrumental in building the first smart phones historically.

9 Q. And then who came out after the HTC phone?

10 A. There were several HTC phones. The big next release was  
11 the Motorola Droid on Verizon.

12 Q. And after Motorola?

13 A. Samsung, LG, Sony Ericsson. You know, ZTE, Lenovo. Many,  
14 many manufacturers shipped Android phones after that.

15 Q. Now, we have an agreed-upon timeline in this case, and I  
16 just want to get your confirmation of some of the -- some of  
17 the elements of it.

18 The ones that would be relevant to you, Google  
19 acquires Android July/August 2005, that's consistent with your  
20 recollection?

21 A. Yes.

22 Q. And then the software development kit, the SDK, that was  
23 released in November of 2007?

24 A. Yes.

25 Q. That's the time at which you saw Mr. Schwartz' blog?

1 A. Yes.

2 Q. And then October 2008, that's that first --

3 MR. VAN NEST: Excuse me, Your Honor.

4 THE COURT: Well, no, it's more important that the  
5 jury see it.

6 MR. VAN NEST: All right. Well.

7 THE COURT: I can see it well enough.

8 MR. VAN NEST: Okay.

9 BY MR. VAN NEST:

10 Q. This says, "October 2008, Google releases the Android  
11 platform."

12 The SDK was in '07. What was released in '08?

13 A. That is what I would call 1.0 of Android. And "releasing"  
14 means we open sourced it for the first time.

15 Q. And then we've got some phones here, HTC releases the  
16 Dream. Is that consistent with your recollection, October  
17 2008?

18 A. Yeah. And just for clarity, Dream was the internal code  
19 name for what ended up being the G1.

20 Q. G1. If I bought a phone, it'd be called a G1?

21 A. That's right.

22 Q. Okay. And then Motorola, LG, Samsung and the others, they  
23 were later?

24 A. Yes.

25 Q. And approximately how many of the open handset members now

1 have produced Android smart phones using the Android platform?

2 **A.** Well, that's a good question. So there's probably about  
3 14 open handset manufacturers that are building Android phones,  
4 and that represents many hundreds of individual phone units.  
5 We call them SKUs.

6 **Q.** And approximately -- you mentioned HTC, Motorola, Samsung,  
7 LG, Sony Ericsson. Who else today are making smart phones  
8 using Android?

9 **A.** Uhm, pretty much everybody but Nokia.

10 **Q.** Everybody except for Nokia.

11 And are you aware --

12 **A.** I should clarify that. Everybody except Nokia and Apple.

13 **Q.** Apple doesn't use Android, obviously.

14 What is the iPhone? What language is the iPhone  
15 written in?

16 **A.** It's my understanding that they use their own derivative  
17 of C, called Objective C.

18 **Q.** Now, are you aware of any smart phones today made using  
19 any of the products that Sun was offering to sell you back in  
20 '05 and '06?

21 **A.** I can't think of any smart phones that are based on Sun  
22 products, based on my knowledge.

23 **MR. VAN NEST:** Pass the witness, Your Honor.

24 **THE COURT:** Can we go ahead, Mr. Boies?

25 **MR. BOIES:** Yes, Your Honor.

**CROSS EXAMINATION**

**BY MR. BOIES:**

**Q.** Good morning, again, Mr. Rubin.

**A.** Good morning.

**Q.** Let me just follow up on what you were just talking about.

You were talking about how positive -- you had all these reactions that you got from Sun. Do you recall that?

**A.** Yes.

**Q.** Now, first, focusing on this blog that Mr. Schwartz did immediately after the announcement, did your memory of that blog get improved some way overnight?

**A.** What do you mean, "overnight"?

**Q.** Last night?

**A.** Last night. Recently?

**Q.** Between when I talked to you yesterday and when you talked to Mr. Van Nest this morning?

**A.** I don't think so, no.

**Q.** Do you remember telling me, when I asked you whether you were aware of any Sun comments shortly after the announcement, telling me only vaguely? Do you remember telling me that yesterday?

**A.** Yesterday? I don't remember that. I'm sorry.

**THE COURT:** Do you have the transcript?

**MR. BOIES:** Yes, Your Honor.

**THE COURT:** All right. Please read the transcript

1 page and line.

2           **MR. BOIES:** Transcript 1447. Lines 4 to 8. "And  
3 after that" -- referring to the announcement --

4           "And after that, various people at Sun made  
5 various comments, correct?

6           **"ANSWER:** I don't know. I suppose so, yes.

7           **"QUESTION:** Do you remember any of those  
8 comments?

9           **"ANSWER:** Vaguely."

10 **BY MR. BOIES:**

11 **Q.** Did you give that testimony yesterday?

12 **A.** Yes, I did.

13 **Q.** Do you stand that by that testimony today?

14 **A.** I don't think we're talking about the same thing.

15 **Q.** You don't? Well, let me try to see if I can pursue that a  
16 little bit.

17           After the announcement there were various comments by  
18 various people at Sun about the announcement, correct?

19 **A.** I imagine so, yes.

20 **Q.** And some of those comments came before you released the  
21 SDK, correct?

22 **A.** I imagine so.

23 **Q.** Well, you know that you didn't release the SDK when you  
24 announced it on November 5, correct?

25 **A.** It was about eight days after, yes.

1 Q. And Mr. Schwartz' blog that you referred to was in  
2 between, correct?

3 A. Yes.

4 Q. And so when Mr. Schwartz did his blog, he didn't have the  
5 benefit of the SDK, did he?

6 A. Uhm, that would be logical, yep.

7 Q. Do you recall any positive public comments that Sun  
8 representatives made about Android after the release of the  
9 SDK?

10 A. You know, the -- you know --

11 Q. That's a yes or no question, sir.

12 A. Are you equating a comment to a blog posting?

13 Q. Well, a blog posting would be a public comment. Would you  
14 agree with that?

15 A. I -- that's where I was a little confused.

16 Q. Okay.

17 A. Because I didn't have the same -- a comment is something  
18 that you hear, you know, from somebody in passing, maybe in the  
19 hallway or something. That's a comment.

20 Q. Leaving aside hallway comments that we can't go back and  
21 check, I'm really focusing now on things we can go back and  
22 check and look at a written record for. Do you understand  
23 that?

24 A. Yes.

25 Q. Now, is there any public comment in a blog or a newspaper

1 report, something that we can go back and check, where any Sun  
2 person said positive things about the Android announcement  
3 after the SDK was released?

4 A. Yes. I believe the blog that we talked about was -- was  
5 an announcement.

6 Q. The blog we're talking about is the Schwartz blog?

7 A. Yes.

8 Q. That was right after the announcement, right?

9 A. Yes.

10 Q. That was before the SDK was released, right?

11 A. Yes.

12 Q. What I'm asking you is: Are you aware of any such  
13 comments by Sun after the SDK was released?

14 Do you understand the question?

15 A. Yes, I do.

16 Yes, I believe there were -- there were a few.

17 Q. Who made them?

18 A. Uhm, I mean, I suppose there were --

19 Q. No, not "I suppose." Who do you remember making them?

20 A. Vineet Gupta, when he came to congratulate me.

21 Q. Now, that wouldn't have been a public. That's one of  
22 these hallway things, right?

23 A. Uhm, I suppose so.

24 Q. And there's no written record of that that you have, is  
25 there, sir?

1 A. Uhm, just my memory.

2 Q. Just your memory. Now, is there any --

3 THE COURT: Wait, wait. Did you finish your -- you  
4 got that far and counsel said that was hallway. Did you have  
5 anything more that you wanted to add to comments after the SDK  
6 was released?

7 THE WITNESS: Sure. I mean, either I would stumble  
8 upon comments myself or I would get --

9 THE COURT: No, no. He's asking for a specific  
10 memory that you can say like you do about the Gupta thing. He  
11 wants a specific recall after SDK came out.

12 THE WITNESS: So after the SDK came out, there were  
13 announcements at JavaOne that I think could be classified as  
14 comments. There were press interviews and things like that  
15 with various Sun employees that I think I would interpret as  
16 comments as well.

17 BY MR. BOIES:

18 Q. For example, let me --

19 MR. BOIES: May I approach, Your Honor?

20 THE COURT: Yes.

21 MR. BOIES: I need Exhibit 1048.

22 BY MR. BOIES:

23 Q. Let me show you on the screen Exhibit 1048. It's in  
24 evidence. Is this an example of the public comments?

25 A. This is a press article.



1 Q. This was a press article November 15th, 2007, correct?

2 A. Yes.

3 Q. And this was after the SDK was announced, correct, sir?

4 A. Uhm, I believe so, yes.

5 Q. And the headline is "Sun concerned Google's Android will  
6 fracture Java."

7 Do you see that?

8 A. That's what the reporter wrote, yes.

9 Q. And did you see this at the time?

10 A. I believe I saw this at the time, yes.

11 Q. Okay. Now, you mentioned Mr. Gupta. Let me ask you to  
12 look at Exhibit 565 and 531.

13 MR. BOIES: If I could have those.

14 BY MR. BOIES:

15 Q. These are not in evidence, and I don't believe you wrote  
16 these documents, but I want to ask you some questions about  
17 them.

18 MR. VAN NEST: I don't believe these have been  
19 disclosed, Your Honor.

20 MR. BOIES: These are impeachment, Your Honor.

21 THE COURT: Well, they don't come into evidence then.  
22 Were they written by this witness?

23 MR. BOIES: No, they weren't. They were written  
24 either by or to Mr. Gupta.

25 THE COURT: That's not impeachment.

1           **MR. BOIES:** I want to ask him whether he agrees with  
2 what Mr. Gupta says.

3           **MR. VAN NEST:** Your Honor, that's outside --

4           **THE COURT:** That's not impeachment.

5           **MR. BOIES:** May I make the inquiry, Your Honor?

6           **THE COURT:** You may make inquiries. But if you want  
7 to use a document not disclosed, it has to be for true  
8 impeachment and not about what somebody else said, unless the  
9 document shows that it was said to this witness. So that's not  
10 impeachment.

11           That should be case-in-chief material. And you  
12 objected a moment ago that one of their documents wasn't  
13 disclosed. They're making the same objection.

14           **MR. BOIES:** Your Honor, can I ask you to look at the  
15 document just to see whether you think it's --

16           **THE COURT:** Show it to me.

17           **MR. BOIES:** The portion that I'm interested in is at  
18 the bottom of the second page, in which Mr. Gupta purports to  
19 say what he had told --

20           **MR. VAN NEST:** Do you have a copy, counsel?

21           **MR. BOIES:** Yes.

22           **THE COURT:** Bottom of the second page. Would you  
23 indicate in the margin what you want me to look at?

24           (Pause)

25           **THE COURT:** Who is Andy?

1           **MR. BOIES:** I'm sorry, Your Honor?

2           **THE COURT:** I understand the reference now. Just a  
3 minute.

4           Well, you cannot use the document. What you can do,  
5 though, is set it up for bringing Mr. Gupta in. He's subject  
6 to subpoena. And say, Did Mr. Gupta say XYZ to you? And you  
7 may use the document. You may paraphrase from the document.  
8 And if the witness denies that he said that, then possibly you  
9 can bring in Mr. Gupta to say that he did.

10           Still, the document is not to or from this witness  
11 and it would not be proper impeachment. So you'll have to do  
12 it the judge's way. I'm sorry.

13           **MR. BOIES:** Quite all right. No problem, Your Honor.  
14 Thank you.

15 **BY MR. BOIES:**

16 **Q.** Mr. Rubin, did Mr. Gupta tell you, in words or in  
17 substance, at any time, that if Google was still using Java in  
18 Android, then Google would have to come to Sun for a license?

19 **A.** No, I don't recall him making that statement to me.

20 **Q.** And I'm saying, did he say that in words or in substance?

21 **A.** I don't believe so, no.

22 **Q.** Did Mr. Gupta tell you, in words or in substance, that if  
23 Google was still using Java in Android, then Google would have  
24 to come to Sun for a license and would have to -- and would  
25 need to have to be compatible?

1 A. No, I don't recall him ever saying that.

2 Q. Did Mr. Gupta tell you that you could not say that you  
3 were not aware of the licensing requirements as you had had to  
4 go through this at Danger?

5 A. Uhm, no, I don't -- I don't believe he ever said that to  
6 me.

7 Q. Did Mr. Gupta ever say to you, in words or in substance,  
8 that if you decided to go the noncompliant, nonlicensed route,  
9 then Sun would need to go deal with you and your handset vendor  
10 for intellectual property issues?

11 A. Uhm, no, I don't recall him saying anything about  
12 intellectual property issues.

13 Q. All right, sir.

14 THE COURT: How much longer do you have on cross?

15 MR. BOIES: About 20 minutes, Your Honor.

16 THE COURT: We're going to take a 15-minute break at  
17 this time. Please remember the admonitions.

18 (Jury out at 9:19 a.m.)

19 THE COURT: All right. Any -- please, be seated.  
20 Here. Got it?

21 All right. Any issues for the judge?

22 MR. BOIES: Not from us, Your Honor.

23 MR. VAN NEST: It appears that I did disclose TX 3521  
24 and '22, but for Mr. Schmidt, not Mr. Rubin. I did disclose  
25 them at the same time and the same day. But I understand that

1 doesn't comply with Your Honor's rules.

2           **THE COURT:** That did not comply. You all are  
3 invoking -- being pretty strict on each other sometimes.

4           **MR. VAN NEST:** Indeed. Sauce for the goose.

5           **THE COURT:** Correct. We'll take our break now.

6           (Recess taken from 9:19 a.m. to 9:39 a.m.)

7           **THE COURT:** Can I bring in the jury?

8           **MR. BOIES:** Yes.

9           **THE CLERK:** All rise.

10          **THE COURT:** Great. Please have a seat.

11          Before we continue, there is something I can do while  
12 everyone is present. One of the jurors gave me a note.

13          "How many APIs in question are also available through  
14 Apache Open Source?" I'll repeat it. "How many APIs in  
15 question are also available through Apache Open Source?"

16          Okay. All right. The lawyers will deal with that in  
17 due course. Meanwhile, we'll continue on with our examination.

18          Mr. Boies.

19          **MR. BOIES:** Thank you, Your Honor.

20 **BY MR. BOIES:**

21 **Q.** And let me ask the witness that, just to start.

22          How many APIs are available from Apache Open Source?

23 **A.** Uhm, I would say all of them, because we contribute them  
24 back to Apache.

25 **Q.** But how many?

1           **THE COURT:** These are APIs in question. In other  
2 words, of the 37, how many? I think that's what is meant. How  
3 many of those came from Open Source?

4           **THE WITNESS:** How many of them originated from Open  
5 Source --

6           **THE COURT:** Apache Open Source.

7           **THE WITNESS:** -- before our contribution?

8           I don't know the exact answer to that, but I would  
9 speculate it was almost the majority of them.

10           **THE COURT:** "Almost the majority" sounds less than  
11 half. So, almost the majority. So the answer is you don't  
12 really know. So we're going to get another witness who does  
13 know later on. Okay.

14           **MR. BOIES:** May I approach, Your Honor?

15           **THE COURT:** Please.

16           **THE WITNESS:** Thank you.

17 **BY MR. BOIES:**

18 **Q.** I'm going to ask you, first, Mr. Rubin, about what Sun  
19 knew and what you told Sun.

20           First, did you make any effort to conceal information  
21 about Android from Sun?

22 **A.** Uhm, well, yeah. I think that during our discussions I  
23 didn't fully divulge our strategy, our business, our  
24 technology. I only shared information that they needed to know  
25 in order for us to accomplish a partnership.

1 Q. And that was during your discussions, correct?

2 A. Yes.

3 Q. Now, after you made your announcement on November 5, did  
4 you continue to try to conceal certain things about Android  
5 from Sun?

6 A. I didn't see a need to share anything with Sun. We  
7 weren't partners.

8 Q. And, indeed, did you try to conceal things from Sun that  
9 you were making available to other members of the development  
10 community?

11 A. Not that I'm aware of.

12 Q. Let me ask you to look at Trial Exhibit 29 that's in  
13 evidence.

14 MR. BOIES: And we can display this.

15 (Document displayed.)

16 BY MR. BOIES:

17 Q. And this is an e-mail from you to Dick Wall, March 24,  
18 2008. Do you see that?

19 A. Yes, I do.

20 Q. And this is five months or so after the announcement of  
21 Android, correct?

22 A. Announcement of -- yes. It's between the SDK and the  
23 first phone.

24 Q. And this is talking about a JavaOne conference that's  
25 coming up?

1 A. Yes.

2 Q. And there's a question:

3 "Are we able to answer direct developer  
4 questions about Android at the booth?"

5 Answer:

6 "Yes, one-on-one only, please."

7 And that's your answer, correct?

8 A. Yes, it is.

9 Q. And then another question:

10 "2) Can we demonstrate the tooling,  
11 emulator, developer environment, et cetera?"

12 And you answer:

13 "Yes, one-on-one only, please, where you know  
14 exactly who you are talking to. Please don't  
15 demonstrate to any Sun employees or lawyers."

16 And that's what you wrote at the time, correct, sir?

17 A. Yes.

18 Q. Let me ask you to look next at exhibit -- I think it's  
19 1072.

20 MR. BOIES: Perhaps we can display that.

21 (Document displayed.)

22 BY MR. BOIES:

23 Q. This is the accused API packages and files that  
24 Mr. Van Nest asked you about?

25 A. Yes, I remember this.



1 Q. Let me start first with the files at the bottom, at the  
2 very bottom of the page where it says "files."

3 And do you agree now, sir, that each of these files  
4 were inappropriately, improperly copied in connection with the  
5 preparation of Android?

6 A. No, I don't agree with that.

7 Q. Okay. So let's go through them one by one. Timsort and  
8 ComparableTimSort. Those were examples of files being  
9 copied -- literally copied, correct?

10 A. I don't understand the question.

11 Q. Okay. Let me just ask a very general question and leave  
12 it to the jury to consider in light of what other people have  
13 testified.

14 With respect --

15 MR. VAN NEST: Object to the colloquy of counsel,  
16 Your Honor.

17 THE COURT: That's true. The lawyers are not  
18 supposed to be making little mini speeches along the way. The  
19 closing argument will be the time for that. So please keep  
20 those kind of comments to a minimum.

21 MR. BOIES: I will, Your Honor. I apologize.

22 BY MR. BOIES:

23 Q. With respect to these files that are listed here, are  
24 there any of these files where you believe, according to the  
25 standards that you set, anybody did anything inappropriate?

1 A. I -- I believe the first file inadvertently had nine lines  
2 of code for a -- for a rangeCheck function.

3 Q. And you believe that that was inappropriate?

4 A. Accidental, but inappropriate.

5 Q. You believe it was accidental?

6 A. Yes.

7 Q. You believe that the person who did that just accidentally  
8 copied them symbol for symbol? Is that what you're saying?

9 A. Well, I don't know if he did copy them symbol for symbol.

10 Q. Okay. Other than the first one, is there any other of  
11 these files where you believe that somebody acted contrary to  
12 the guidelines that you had given them?

13 A. Uhm, I -- I -- other than that file, I don't -- I'm not  
14 aware of anything contrary to my guidelines.

15 Q. And you did investigate that after these were brought to  
16 your attention, correct?

17 A. To some degree. People in my team investigated.

18 Q. And did any of the people on your team report to you that  
19 anything had happened inappropriate or inconsistent with your  
20 guidelines with respect to any of these files?

21 A. I think there was some header, some non- -- noncode  
22 related, nonimplementation related, just human readable  
23 conflicts. But I don't know the details of that.

24 Q. You don't know the details. Okay.

25 Let me go to the top part with respect to the APIs

1 and the API packages. First, you've referred to APIs as being  
2 part of the programming language, correct, sir?

3 A. Some APIs are part of the programming language, yes.

4 Q. Are any of these APIs part of what you call the  
5 programming language?

6 A. Depends. I think that, you know, if you look at it from  
7 the --

8 Q. That's a yes or no question.

9 A. Yes.

10 Q. Which of these APIs are what you refer to as part of the  
11 Java programming language, just by number?

12 A. All the ones that start with Java dot.

13 Q. So that's all of them up through number 26; correct?

14 A. Yes.

15 Q. Now, with respect to the Java programming language that  
16 you used, you didn't change the Java programming language in  
17 your implementation for Android, did you?

18 A. It's hard to answer that question because there's two ends  
19 of the Java programming language.

20 Q. Because there are two ends? Okay. Let me just ask a  
21 question yes, or no.

22 Did you change the Java programming language in your  
23 implementation of Android?

24 A. If you want me to answer yes -- I don't think I can answer  
25 based on the information you've given me.

1 Q. Okay. Did you change the Java APIs in connection with  
2 your implementation?

3 A. Uhm, I believe there were some modifications to the Java  
4 APIs, yes.

5 Q. Now, you knew that Apache, who provided you with some of  
6 your code, was not authorized to use that code for mobile  
7 devices, correct?

8 A. No, I didn't understand that.

9 Q. You did not understand that? Let me ask you to look at  
10 Exhibit 405 that's in evidence. And in particular, where it  
11 says --

12 MR. VAN NEST: Excuse me, Your Honor. I don't  
13 believe this was disclosed for the witness either. It's not on  
14 my list.

15 MR. BOIES: I thought it was disclosed, Your Honor,  
16 but I could be in error. But in any event, this is, I think,  
17 impeachment.

18 THE COURT: All right. Let me see. Is it to or from  
19 the witness?

20 MR. BOIES: It is not to or from the witness, Your  
21 Honor. And if impeachment is limited to what is to and from  
22 the witness, this would not qualify.

23 THE COURT: Go at it a different way.

24 BY MR. BOIES:

25 Q. Let me ask you this: Did anyone ever tell you, sir, that

1 Sun had put field of use restrictions on the Java SE licenses  
2 that prohibited Java SE implementation from running on anything  
3 but a desktop or server? Did anybody tell you that?

4 **A.** I believe that Sun put restrictions on their  
5 implementation in their license to their Java SE.

6 **Q.** Did you understand that these restrictions prevented  
7 Apache Harmony from independently implementing Java SE for  
8 anything other than a desktop or server?

9 **A.** No, I don't believe that's true.

10 **Q.** No one ever told you that?

11 **A.** No.

12 **Q.** You obviously know both Mr. Schmidt and Mr. Bob Lee,  
13 correct?

14 **A.** I do.

15 **Q.** And neither of them ever told you that? That's your  
16 testimony?

17 **A.** That is my testimony.

18 **Q.** Did you understand that Apache was free to distribute  
19 their --

20 **MR. BOIES:** Excuse me, Your Honor. I believe we  
21 did -- I'm told we did disclose this Exhibit 405. We disclosed  
22 it on Saturday. We disclosed it for Mr. Rubin.

23 **THE COURT:** Mr. Van Nest, is that true?

24 **MR. VAN NEST:** Not according to the list I have, Your  
25 Honor.

1 (Pause)

2 **MR. VAN NEST:** I understood there was a list that had  
3 it, and then that list was pulled back and we got a revised  
4 list that doesn't have it. That's what I understand.

5 **MR. BOIES:** Your Honor, this was disclosed.

6 **THE COURT:** May I see the point? Show me the  
7 document that allegedly discloses it.

8 **MR. BOIES:** It goes on to the third page.

9 **THE COURT:** The exhibit number is which?

10 **MR. BOIES:** 405, Your Honor. It was cut back on  
11 Saturday --

12 **MR. VAN NEST:** Yes.

13 **MR. BOIES:** -- the documents we were asking them to  
14 stipulate to. We did not cut back on documents we we're asking  
15 for disclosure purposes.

16 **THE COURT:** All right. It looks like it was on the  
17 list. Possibly there was some confusion, but I think counsel  
18 put it on a list. It's already in evidence, right?

19 **MR. BOIES:** Yes, Your Honor.

20 **THE COURT:** All right. Since it's already in  
21 evidence, I'm going to let counsel go ahead and examine on that  
22 document.

23 Go ahead.

24 **MR. BOIES:** Let me display it, if I can, in front of  
25 the jury.

1 (Document displayed.)

2 **BY MR. BOIES:**

3 **Q.** And direct your attention to the last paragraph, the  
4 sentence that begins:

5 "Sun puts field of use restrictions in the  
6 Java SE TCK licenses which prohibit Java SE  
7 implementations from running on anything but  
8 a desktop or server."

9 Do you see that, sir?

10 **A.** Yes.

11 **Q.** And that was something that you were familiar with,  
12 correct?

13 **A.** I'm familiar with that, yes.

14 **Q.** Now, the next sentence:

15 "These restrictions prevent Apache Harmony  
16 from independently implementing Java SE  
17 (Harmony can't put those restrictions on  
18 their own users and still Apache license the  
19 code) not to mention Android."

20 Do you see that, sir?

21 **A.** I see it.

22 **Q.** And were you aware of that at the time?

23 **A.** I disagree with that statement.

24 **Q.** You disagree with that statement.

25 Let me ask you whether you were aware that that's

1 what Mr. Lee and Mr. Schmidt believed?

2 **A.** No, I wasn't aware.

3 **Q.** Do you see where Mr. Schmidt replies to Bob Lee:

4 "Thanks Bob. You were great to walk around  
5 with. I'm not surprised about Sun's  
6 position; this has been a long-standing  
7 pattern."

8 Do you see that, sir?

9 **A.** I see that.

10 **Q.** And it's your testimony here that neither Mr. Schmidt nor  
11 Mr. Lee ever told you what is written here. Is that correct?

12 **A.** That's correct.

13 Let me turn to another subject. Do you remember  
14 testifying during your examination by Mr. Van Nest that you  
15 were trying, in connection with Android, to get it out to as  
16 many people as possible because you, quote, thought it would be  
17 good for the world to do that? Do you see that?

18 **A.** Yes, I do.

19 **Q.** Now, you also expected to make revenue off of Android,  
20 correct?

21 **A.** Not directly off of Android, no.

22 **Q.** Not necessarily directly, because Google makes its revenue  
23 through advertising, correct?

24 **A.** That's right.

25 **Q.** But you did expect to make revenue off of Android. Not



1 through licensing, but you expected to made revenue off of  
2 Android, correct, sir?

3 **A.** We make revenue off of advertising.

4 **Q.** And you expected Android to contribute greatly to that  
5 advertising revenue; didn't you, sir?

6 **A.** Android makes it easier to access Google's services.

7 **Q.** Can I get a yes or no answer to that question, sir?

8 **A.** I'm sorry?

9 **MR. BOIES:** Your Honor, can I ask for a yes or no?

10 **THE COURT:** Well, not quite. The word "greatly" was  
11 in there.

12 Did you expect Android to contribute greatly to the  
13 advertising revenue?

14 **THE WITNESS:** No, I didn't.

15 **BY MR. BOIES:**

16 **Q.** Did you participate in the presentation of a board  
17 presentation in connection with expectations for Android, sir?

18 **A.** Uhm, I don't know what you're referring to.

19 **Q.** I'm really just asking you right now whether you  
20 participated in a board -- in preparation of materials for the  
21 board about what you expected Android to contribute to Google?

22 **A.** Preparation of board materials?

23 **Q.** Yes.

24 **A.** Okay. Yes.

25 **MR. BOIES:** And may I approach, Your Honor?

1           **THE COURT:** Yes.

2           **BY MR. BOIES:**

3           **Q.** Let me show you Exhibit 431, which is in evidence.

4                   (Document displayed.)

5           **Q.** And there's an e-mail here, and then attached to it are  
6 charts that you helped prepare, correct, sir?

7           **A.** Either I approved the charts or maybe made edits. But  
8 they were prepared by somebody else.

9           **Q.** But you then approved them; is that what you're saying?

10          **A.** Typically, in their final form it comes to me for approval  
11 for my business portion of these slides.

12          **Q.** And, indeed, the e-mail says:

13                   "Hi, Andy" -- cc'ing the OC -- "Thanks again  
14 for putting this response together."  
15 Do you see that?

16          **A.** Yes.

17          **Q.** And right before that there's an e-mail from you that  
18 says:

19                   "Hi. Enclosed are the slides for the board  
20 of directors' questions 2."  
21 Do you see that?

22          **A.** Yes.

23          **Q.** Now, if we turn to those slides, it talks about five  
24 business units, each of which are a \$10 billion opportunity.

25 Correct?

1 A. I see that, yes.

2 Q. And then it says, Android and Chrome platforms are  
3 critical assets to the success of these five business units,  
4 correct?

5 A. I see that.

6 Q. And that's something you approved, didn't you, sir?

7 A. I didn't specifically approve that, no.

8 Q. Well, sir, you sent it to be passed on to the board of  
9 directors of Google, correct?

10 A. No. Again, this was authored by somebody else, so I  
11 didn't send it to anybody. It was sent to me. I reviewed it  
12 and then approved it. But in its entirety, not sentence by  
13 sentence.

14 Q. Well, let's be clear. You took these and after --

15 THE COURT: Is this in evidence? Is the jury seeing  
16 this over there?

17 All right. I'm sorry, go ahead.

18 BY MR. BOIES:

19 Q. You then sent it on to be given to the board of directors.  
20 That's the very top part of Google, correct?

21 A. Uhm, can you ask that question again?

22 Q. Excuse me, what?

23 A. Can you ask the question again?

24 Q. Sure. After approving these charts, you sent it on to be  
25 given to the board of directors of Google, correct?

1 A. Uhm, I don't believe I sent -- I don't believe I enclosed  
2 the presentation in any of my e-mails, sent it on.

3 Q. Look at the very bottom of the first page.

4 A. Uh-huh.

5 Q. Do you see where it says "from Andy Rubin, October 9,  
6 2010"?

7 A. I see that now. You're correct. I did enclose it.

8 Q. Let me just turn to Android and Apache very quickly.

9 You agree, do you not, that you took Apache code and  
10 incorporated it into Android?

11 A. I wouldn't use that exact terminology, no.

12 Q. You wouldn't? You told Noser that the Apache code was  
13 something that they could use, right?

14 A. That's correct.

15 Q. Okay. And do you have any reason to believe that they did  
16 not, in fact, use it as you told them they could?

17 A. No.

18 Q. Okay. And you would agree with me, would you not, that  
19 you didn't have any license from Sun to use that code?

20 A. I did not have a license from Sun to use Apache code.

21 Q. And, indeed, you didn't have -- Google did not have any  
22 license at all from Sun for any of the things that they did  
23 with respect to Android, correct?

24 A. Uhm, I don't believe -- I mean, we had NDAs with Sun, but  
25 I don't believe we had any licenses to Sun's asset in

1 connection with Android.

2 Q. And would you also agree that when you were developing  
3 Android, and even after you announced it, you knew that you did  
4 not at that point -- at that period of time, not today but that  
5 period of time -- you knew you did not have any license from  
6 Sun that authorized what you were doing, correct?

7 A. I didn't believe I needed authorization.

8 Q. And that's because you had a personal belief that APIs  
9 were not copyrightable, correct, sir?

10 A. No, that wasn't my belief. That's not the reason.

11 Q. That's not the reason?

12 A. That's not the reason I didn't think I needed a license.

13 Q. Did you believe that APIs were copyrightable or not?

14 A. I don't believe APIs are copyrightable.

15 Q. But that's just based on sort of stories and folklore,  
16 correct, sir?

17 A. I wouldn't call it that. I'm a computer scientist. I've  
18 been trained to understand how computers work.

19 Q. All right, sir. Let me read you from your deposition,  
20 page 155 of your July 27, 2011, deposition, lines 13 through  
21 21.

22 "QUESTION: What is your basis for your  
23 personal belief that APIs are not  
24 copyrightable?

25 "ANSWER: Industry stories and folklore of

1           what I've heard about various legal cases  
2           around Nintendo and the fact that a lot of  
3           these things were documented in books that  
4           were in the public domain.

5           **"QUESTION:** Anything else?

6           **"ANSWER:** No."

7           Do you stand by that testimony, sir?

8   **A.** That is part of my personal belief, yes.

9   **Q.** Now, when you referred to GNU, GNU had what was called a  
10 GPL license, correct?

11 **A.** Yes.

12 **Q.** And Google could have taken a GPL license for Java,  
13 correct?

14 **A.** No, I don't believe so.

15 **Q.** It was available, right?

16 **A.** It was available but not compatible.

17 **Q.** Not compatible. That is, you didn't want it?

18 **A.** We couldn't technically merge licenses. It would have  
19 been a conflict to merge these two licenses.

20 **Q.** Which two licenses?

21 **A.** Apache and GPL.

22 **Q.** Now, that's where you were using licenses to license  
23 headset manufacturers and other people, correct?

24 **A.** Our chosen open source license for our contributions to  
25 open source is Apache.

1 Q. Yes, but that's when you're licensing your stuff, right?

2 A. Uhm, yes.

3 Q. Okay. Now I'm talking about when you're getting a license  
4 from Sun. Do you understand the difference?

5 A. Uhm, I -- okay.

6 Q. I asked you before, you didn't have a license for Sun for  
7 anything, and you agreed with me?

8 A. That's correct.

9 Q. Now, you know that Sun offers people three basic types of  
10 licenses, correct?

11 A. I'm not sure what -- I'm happy to hear what they offer.

12 Q. A GPL license, a specifications license and a commercial  
13 license. You're familiar with those three types, right?

14 A. Yes.

15 Q. And Sun makes its Java intellectual property available to  
16 people under each of those three types of licenses, correct?

17 A. I'll take your word for it.

18 Q. And is that consistent with your understanding?

19 A. I'll take your word for it. Especially that last part.

20 THE COURT: He's asking do you know of anything to  
21 the contrary? He's asking --

22 THE WITNESS: I don't -- I don't know all of the ways  
23 that Sun makes their intellectual property available to people.

24 THE COURT: Well, he didn't ask that. He's -- you  
25 say you'll take his word for it. But do you know of anything

1 inconsistent with the representation counsel is making to you?

2           **THE WITNESS:** I've heard rumor of some unpublished  
3 licenses, some licenses that aren't part of their standard set  
4 of licenses.

5           **THE COURT:** Well, since he doesn't know what these  
6 licenses are, is this a productive line of questions?

7           **MR. BOIES:** Your Honor, it may not be, but I need to  
8 just maybe ask two more questions on along this line.

9           **THE COURT:** All right. Go ahead.

10 **BY MR. BOIES:**

11 **Q.** You know that the GPL license -- leaving aside these  
12 rumored licenses that you've referred to.

13           You know that the GPL license by which Sun makes its  
14 Java intellectual property available to people is something  
15 that has no cost to it, correct?

16 **A.** So the GPL license is somebody else's license that Sun  
17 uses to make some of Sun's technology available to the public.

18 **Q.** Or all of Sun's technology, whatever it is. And I know  
19 you don't know, but whatever Sun's intellectual property that  
20 they make available under the GPL license, Sun doesn't make any  
21 charge for that, correct?

22 **A.** That's correct.

23 **Q.** And what somebody has to do, though, if they take Sun's  
24 intellectual property subject to that license, is they have to  
25 agree to make freely available to everybody what they build on



1 top of that, correct?

2 **A.** Yes. Their contribution or derivative works need to be  
3 made available under the same license.

4 **Q.** Right. So that if you take Sun's intellectual property  
5 and you create a derivative work under a GPL license, you must  
6 then give away to everybody else your derivative work, correct?

7 **A.** I don't agree with the way you asked that question.

8 **Q.** Okay. Let me just try it one more time.

9 Do you agree that if you take Sun's intellectual  
10 property pursuant to a GPL license, you're obligated to  
11 dedicate back, under the same GPL license, any derivative work  
12 that you create based on Sun's intellectual property?

13 **A.** If I was to take Sun's --

14 **Q.** That's a yes or no question.

15 **A.** Can you ask it again, please.

16 **MR. BOIES:** May I have it read, Your Honor?

17 **THE WITNESS:** I want to be precise.

18 **THE COURT:** The court reporter will please read back  
19 the last question.

20 (The reporter read the pending question.)

21 **THE WITNESS:** I don't understand the question as it's  
22 asked.

23 **BY MR. BOIES:**

24 **Q.** Okay. Let me move to a different subject then.

25 This is Exhibit 1028. This is a partial list of Java

1 class libraries. Have you ever seen this before?

2 **A.** I have not.

3 **Q.** You have not. Do you recognize it as something that Sun  
4 publishes?

5 **A.** Uhm, no, I don't -- I've never seen it before.

6 **Q.** Can you tell by looking at it how much of what's on this  
7 chart was copied into Android?

8 **MR. VAN NEST:** Objection, Your Honor, this is also an  
9 undisclosed exhibit on the list.

10 **THE COURT:** Was this exhibit on your list?

11 **MR. BOIES:** Your Honor, it is not. It is not. I  
12 withdraw the question.

13 **BY MR. BOIES:**

14 **Q.** Let me ask the question this way: How much of the  
15 specifications of Sun's Java APIs, the 37 in contest, did  
16 Android implement?

17 **A.** How much of the APIs in Sun's specification did Android  
18 implement?

19 **Q.** Yes.

20 **A.** I believe it was a little over 50. Or of Sun's  
21 specification? Probably 30-something.

22 **Q.** Thirty-seven, does that sound right?

23 **A.** That sounds about right, yeah.

24 **MR. BOIES:** No more questions, Your Honor.

25 **THE COURT:** Anything more?

1           **MR. VAN NEST:** Yes, Your Honor. A little bit.

2           **THE COURT:** All right. Go ahead.

3                           **REDIRECT EXAMINATION**

4   **BY MR. VAN NEST:**

5   **Q.** Mr. Rubin, why did you think that it was open and  
6 available to use the source code from Apache?

7   **A.** Uhm, it was developed independent and it was a product of  
8 the Apache Software Foundation.

9   **Q.** And the Apache Software Foundation, they're not controlled  
10 by Sun, right?

11   **A.** No. Separate company.

12   **Q.** That's an open source group?

13   **A.** It is.

14   **Q.** And that product, that code, that license, that's been  
15 available completely independent of Sun?

16   **A.** Before Android started.

17   **Q.** And was it your understanding that Apache was ever  
18 licensed by Sun?

19   **A.** It's not my understanding that they were ever licensed by  
20 Sun.

21   **Q.** And during the time you were developing Android, was it  
22 ever your understanding that Apache was operating under  
23 anything other than their own license?

24   **A.** Just their own open source license.

25   **Q.** So all this discussion about field of use and so on and so

1 forth, was that something you even considered back at the time?

2 **A.** Actually, I mean Exhibit 405, you know, having seen it for  
3 the first time, I mean, they were talking about Sun technology  
4 called the TCK, which is proprietary technology of Sun, and how  
5 that has field of use restrictions.

6 We never used the TCK, had access to it, licensed it.  
7 And it's not part of Apache. It's Sun's proprietary technology  
8 that we stayed away from.

9 **Q.** All right. Now, Apache, that's -- the Apache Harmony  
10 product, that's the product you said was in other commercial  
11 implementations, too. Other people were using it?

12 **A.** Lots of people were using it.

13 **Q.** And Apache makes some or all of the Java class libraries  
14 available?

15 **A.** Yeah, I think they were -- they were -- continued to be  
16 developed for a long time.

17 **Q.** Okay. You were asked why you believe APIs were not  
18 copyrightable.

19 Can you explain to the jury as a computer scientist  
20 why you believe APIs are not copyrightable?

21 **A.** There's two sides of this. If you remember my --

22 **MR. BOIES:** Objection, Your Honor. Foundation.

23 **MR. VAN NEST:** He opened the door.

24 **THE COURT:** He said it was folklore. Folklore is not  
25 good enough to go -- no. This is, in part, a legal question.

1 Mostly a legal question. And we've heard enough about this  
2 particular subject. And from this point on it is just a jury  
3 argument. And it's okay to have a jury argument, but we will  
4 wait until the closing arguments to do that.

5 So the objection is sustained.

6 **MR. VAN NEST:** I just wanted to be sure, Your Honor.  
7 I understand that you want in the record everything that we  
8 possibly can on this issue, and I just want to be sure I do  
9 that. That's my only concern.

10 **THE COURT:** Fine. But it's --

11 **MR. VAN NEST:** It won't be held against me.

12 **THE COURT:** It's not worth the candle. Well, it  
13 might be held against you, but -- I don't know. That's not the  
14 way to put it. It's not worth the candle. That's what I mean  
15 to say.

16 **MR. VAN NEST:** Okay.

17 **BY MR. VAN NEST:**

18 **Q.** Now, you were also asked some questions about having a  
19 license or not having a license from Sun.

20 Why did you believe that you could develop Android as  
21 you did, using your own source code and the Java APIs, without  
22 a license from Sun?

23 **MR. BOIES:** Objection. Foundation.

24 **MR. VAN NEST:** He's opened the door to that, too,  
25 Your Honor.

1           **THE COURT:** Hasn't he already testified to this  
2 before?

3           **MR. VAN NEST:** He did. He was asked about it on  
4 cross and I'd like to follow up with just a couple of questions  
5 on redirect. I promise I'll be brief, Your Honor.

6           **THE COURT:** All right. Go ahead. Overruled.

7 **BY MR. VAN NEST:**

8 **Q.** Go ahead, Mr. Rubin.

9 **A.** Well, I didn't believe I needed a license because I wasn't  
10 using any of Sun's technology or intellectual property.

11 **Q.** Now, you were asked a couple of questions about Trial  
12 Exhibit 29, in which you were cautioning your -- some Google  
13 employees.

14           Can you explain to the jury, what was the context of  
15 that e-mail and why were you so cautious in that instance?

16 **A.** Sure. So we were, you know, a small team within Google,  
17 which was a large company. And Google, the company, interacts  
18 with, uhm, you know, partners and things like that. And  
19 Google, the company, was attending this JavaOne conference  
20 that's referenced in the e-mail.

21           It wasn't something that the Android team, you know,  
22 was -- I didn't allow anybody in the Android team to attend  
23 that conference, but it was something Google was doing anyway.  
24 And I didn't want to stop some other team at Google from  
25 attending the conference.

1           So this person asked me specifically what he can talk  
2 about at the conference, not being a member of the Android  
3 team, relating to our recent announcement about Android.

4           And I felt, because he wasn't part of the Android  
5 team, he didn't really know our story, he didn't know our  
6 strategy, that he shouldn't be attending this conference  
7 representing Android. So I told him specific areas to be very  
8 careful about.

9   **Q.**   And at this time, after the SDK was announced and before  
10 any phones launched, even though Sun had come out publicly in  
11 support of Android, did you regard them still as a competitor?

12   **A.**   I did. I mean, they were still trying to build products  
13 for the smart phone space. I thought I had a head start and I  
14 wanted to make sure we kept our secret secret.

15   **Q.**   You were asked just a few questions about what's called  
16 the GPL license during your cross-examination.

17           Is the GPL license something that is a product of Sun  
18 or do they control the GPL license?

19   **A.**   No. The GPL license is another open source license. It's  
20 the free software foundation like the Apache Software  
21 Foundation was another foundation, another company that offered  
22 that license.

23   **Q.**   It's not a license for Sun -- for Sun's technology, right?

24   **A.**   That's correct. It's a license that companies like Sun  
25 can adopt if they want to make their software available under

1 that license.

2 Q. And just prior to the SDK announcement in 2007, did you  
3 learn that Sun was making some of its Java class libraries  
4 available under the GPL?

5 A. Yes. I believe that Sun made a press announcement that  
6 they will at some point in the future make these -- make some  
7 of their Java technology available under Open Source.

8 Q. And approximately when did you learn that?

9 A. That was a couple of months before we -- we launched.

10 Q. Do you know what technology Sun was offering to make  
11 public Open Source under the GPL license?

12 A. I believe it was their desktop version of Java at the  
13 time.

14 Q. So that's Java SE?

15 A. Yeah, J2SE.

16 Q. So would that have included all the class libraries that  
17 we're talking about here in this case?

18 A. Yes. I believe J2SE includes all the 37 APIs.

19 Q. And all the source code in those -- in those class  
20 libraries?

21 A. Sun's implementation of the APIs, yes.

22 Q. Their source code. So your understanding was they were  
23 going to make that public, put it on a website, let anybody in  
24 the world use it?

25 A. First time they were open sourcing Java technology.



1 Q. Now, you mentioned that it would be hard to merge. By  
2 this point in time where were you in your development of the  
3 Android product?

4 A. Three months, you know, before it was going to launch.

5 Q. So would it have done you any good to use Sun's technology  
6 at that point?

7 A. They hadn't open sourced it at that point. They announced  
8 they were going to open source it. Shoot, I believe they -- I  
9 mean -- I -- it was kind of too late at that point. Uhm,  
10 actually, I believe they announced it as open source in  
11 reaction to what they knew I was working on.

12 Q. Okay. So at that point, would it have done you any good  
13 to take that Sun technology, whatever it was, that they were  
14 making public?

15 A. It would have -- it would have delayed us.

16 MR. VAN NEST: I have nothing further, Your Honor.

17 THE COURT: All right. Anything more, Mr. Boies?

18 MR. BOIES: Just briefly, Your Honor. May I approach  
19 the witness?

20 THE COURT: Yes.

21 RECROSS EXAMINATION

22 BY MR. BOIES:

23 Q. Let me ask you to look at Trial Exhibit 7 that's already  
24 in evidence. And this goes to what you were just talking about  
25 in terms of what you knew about Apache.

1           This is an October 11, 2005, e-mail from you to  
2 Mr. Page down at the bottom of the first page of this exhibit.  
3 Is that correct?

4   **A.**    Yes.

5   **Q.**    And you say in the next to last paragraph, "Sun has  
6 already permitted open source VM projects in nonmobile areas -  
7 areas where they didn't have a well-defined revenue stream.  
8 Apache is an example."

9           Do you see that, sir?

10   **A.**    Yes, I do.

11   **Q.**    And you knew there that Apache was being made available;  
12 that is, what was being made available to Apache was for use in  
13 nonmobile areas. Correct, sir?

14   **A.**    I don't think -- no, that's incorrect.

15   **Q.**    You did know what was written here, didn't you?

16           You don't dispute that you knew what you wrote in  
17 this sentence?

18   **A.**    Yeah, it's the meaning we're discussing, not what I wrote.

19   **Q.**    And you know, when you said that lots of people are using  
20 Apache Harmony commercially -- remember just saying that to  
21 Mr. Van Nest?

22   **A.**    Lots of people use Apache Harmony commercially.

23   **Q.**    All of those people have a Sun license, correct, a license  
24 from Sun?

25   **A.**    I don't know.

1 Q. Well, do you know anybody, other than Google, who's using  
2 Apache Harmony commercially that does not have a license from  
3 Sun? Anybody other than Google?

4 A. Yes. The Apache Software Foundation.

5 Q. The Apache Software Foundation doesn't use it  
6 commercially. It's a nonprofit organization correct, sir?

7 A. I don't know if it's a nonprofit organization or not.

8 Q. Well, you do know that they don't charge, right?

9 A. I don't know what their business model is specifically,  
10 but I know they don't charge for software.

11 Q. So you know they're not using it commercially, correct?

12 A. Again, I don't -- I don't understand the question. If  
13 it's defined by what's commercial or not.

14 Q. Well, when you talked about people using Apache Harmony  
15 commercially, did you mean using it in products that were being  
16 sold to the public?

17 A. There's other commercial uses of products other than  
18 selling the physical product itself.

19 Q. Yes, but does Apache Harmony do any of those commercial  
20 things?

21 A. I believe so, yes.

22 Q. What commercial things?

23 A. They build web servers and they sell professional services  
24 associated with supporting those web services.

25 Q. But they are not using the Sun proprietary technology to

1 do that, are they, sir?

2 A. I don't believe Apache has a license with Sun.

3 Q. And you don't believe that they're using any of Sun's  
4 specifications for these commercial activities that you're  
5 talking about, do you, sir?

6 A. I believe they use Apache Harmony for these commercial  
7 things that I'm talking about.

8 Q. And do they sell those directly to the public or to  
9 another company, according to you?

10 A. I don't know.

11 Q. You don't know?

12 Do you know any company that uses Apache Harmony,  
13 other than Google, who --

14 A. I would say --

15 Q. -- does not have a license from Sun?

16 A. Can you ask the question again?

17 Q. Do you know of any company, other than Google, who uses  
18 Apache Harmony, that does not have a license from Sun?

19 A. I would say all of the companies that have downloaded  
20 Android and use Android in their products.

21 Q. And what I'm asking you is: Do you know of any company  
22 other than -- oh, these are people who have downloaded Android.  
23 These are the people you've given Android to?

24 A. These are people who have chosen Android.

25 Q. Okay. Let me be clear. Other than Google and the people

1 that Google gives its Android to, do you know of any other  
2 company that uses Apache Harmony that doesn't have a license  
3 from Sun?

4 **A.** Uhm, I -- I -- I -- I don't -- I don't know.

5 **Q.** Have you ever tried to find out?

6 **A.** Uhm, no.

7 **MR. BOIES:** No more questions.

8 **THE COURT:** All right. May the witness step down?

9 **MR. VAN NEST:** Your Honor, may I ask just one or two,  
10 at the Court's indulgence?

11 **THE COURT:** Oh, okay.

12 (Laughter)

13 **MR. VAN NEST:** I'm sure this is going to cost me,  
14 too.

15 **THE COURT:** One or two. One or two.

16 **MR. VAN NEST:** I'm sure this is going to cost me.

17 **FURTHER REDIRECT EXAMINATION**

18 **BY MR. VAN NEST:**

19 **Q.** Mr. Rubin, who are the handset manufacturers using Android  
20 without any license from Sun?

21 **A.** Uhm, I don't believe any of the handset OEMs. You know,  
22 the top ten worldwide handset OEMs that I know about have a  
23 license from Sun.

24 **Q.** And who are they?

25 **A.** Motorola, Samsung, LG, Sony Ericsson, HGC, Lenovo, GTE,

1 Huawei. Everybody but Nokia or Apple.

2 **MR. VAN NEST:** That's my two. Thank you, Your Honor.

3 **THE COURT:** All right. May the witness step down?

4 **MR. BOIES:** A quick question?

5 (Laughter)

6 **THE COURT:** All right. Go ahead.

7 **FURTHER RECROSS EXAMINATION**

8 **BY MR. BOIES:**

9 **Q.** Could any of those handset manufacturers that you've just  
10 listed use Apache Harmony for anything other than the Android?

11 **A.** I don't know.

12 **MR. BOIES:** Thank you.

13 **THE COURT:** All right. The witness will now step  
14 down. You are free to go. Thank you, sir.

15 **THE WITNESS:** Thank you.

16 (Witness excused)

17 **THE COURT:** Google may call its next witness.

18 **MS. ANDERSON:** Your Honor, we call Dan Bornstein to  
19 the stand.

20 **THE COURT:** Okay.

21 Are you Mr. Bornstein?

22 **THE WITNESS:** I am.

23 **THE COURT:** Welcome. Please stand there and raise  
24 your right hand. The clerk will swear you in.

25

1                                   **DANIEL BORNSTEIN,**  
2 called as a witness for the Defendant herein, having been first  
3 duly sworn, was examined and testified as follows:

4                   **THE WITNESS:** I do.

5                   **THE CLERK:** Okay. Thank you.

6                   **THE COURT:** Okay. Welcome. You need to sit. The  
7 microphone moves all around, but you've got to get it this  
8 close.

9                   **THE WITNESS:** Is this okay?

10                  **THE COURT:** Say your name.

11                  **THE WITNESS:** Daniel Bornstein.

12                  **THE COURT:** Okay over there? Everybody hear okay?  
13 Very well. Go ahead, counsel.

14                                   **DIRECT EXAMINATION**

15 **BY MS. ANDERSON:**

16 **Q.** Good morning, Mr. Bornstein.

17 **A.** Good morning.

18 **Q.** Welcome.

19 **A.** Thanks.

20 **Q.** Before we begin, would you please introduce yourself to  
21 the jury and tell them where you live.

22 **A.** Uhm, my name is Daniel Bornstein. I live in  
23 San Francisco.

24 **Q.** How long have you lived in Northern California?

25 **A.** Uhm, since 1992.

1 Q. Do you work in a particular field?

2 A. Uhm, yeah, in the computer industry.

3 Q. How long have you been involved in the computer -- in the  
4 computer field?

5 A. Really, it's like since I've been seven or eight years  
6 old, something like that.

7 Q. All right. Have you written some programs over the course  
8 of your lifetime?

9 A. Oh, yeah, many.

10 Q. When did you write your first computer program?

11 A. Again, that would have been like when I was seven or eight  
12 years old.

13 Q. Did you continue to write programs throughout your grammar  
14 and high school years?

15 A. Yeah, absolutely.

16 Q. Would you please give the jury some examples of the kind  
17 of programs you wrote when you were young?

18 A. So when I was little, I mean, I did lots of, like, games  
19 and kind of fun graphic stuff. And, also, I did -- like, in  
20 high school I did computer science, and I did projects for  
21 that.

22 I had a -- like, my senior thesis in high school was  
23 a -- was -- involved a lot of computer programming. That sort  
24 of thing.

25 Q. After high school, where were you educated?



1 A. Uhm, I went to Brown University.

2 Q. Did you receive a degree from Brown?

3 A. I did. I got a bachelor of science in cognitive science.

4 Q. Where have you worked over the years since graduating from  
5 Brown?

6 A. Uhm, I've worked at a lot of places.

7 Q. Okay. Give the jury a sense of the different companies  
8 you've worked at over the years, understanding you've worked at  
9 quite a few.

10 A. Okay. So my first job out of college was with a company  
11 called Kaleida Labs. That was a joint venture between Apple  
12 and IBM.

13 After that, let's see -- let's see. There's another  
14 interesting one. They're all interesting. There's a place  
15 called Electric Communities where we were doing -- the company  
16 was doing kind of a virtual reality-ish thing. I was doing  
17 kind of core platform programming for them.

18 I actually founded a startup, and that lasted for a  
19 few years.

20 Uhm, I worked at a company called Danger, that did  
21 a -- like a proto-smart phone thing called the Sidekick.  
22 Actually, T-Mobile called it Sidekick. The platform was called  
23 Hiptop.

24 And after Danger, I worked at Google.

25 And now I work at a company called The Obvious

1 Corporation.

2 Q. Thank you. And let's put some time frames on where you  
3 were at these various companies.

4 During what years were you with Kaleida Labs?

5 A. Kaleida Labs would have been 1992 through 1994.

6 Q. And how about Electric Communities? What years were you  
7 working at there?

8 A. I think that was '96 through '98.

9 Q. And you mentioned you worked at Danger for a few years.  
10 During what general time frame were you working at Danger?

11 A. Danger would have been 2002 through 2005.

12 Q. And during what years did you work at Google?

13 A. Google was 2005 through the end of last year.

14 Q. Thank you.

15 Did there come a time during your career where you  
16 became aware of the Java programming language?

17 A. Yeah, there was.

18 Q. When was that?

19 A. I believe I first became aware of the language in that  
20 first job at Kaleida.

21 Q. Were you using the Java language in your work at Kaleida  
22 Labs at the time?

23 A. No. It was more like it had been something that was --  
24 there was some buzz in the industry about, so I -- you know, I  
25 try to keep up with that sort of thing so I was aware of it.

1 But I didn't use it at the time.

2 Q. And at some point did you ever use Java language for the  
3 first time in your actual work?

4 A. Uhm, yes.

5 Q. When was that?

6 A. At Electric Communities.

7 Q. And just generally speaking, what kind of project were you  
8 working on when you used the Java language for the first time?

9 A. Uhm, the -- I think -- I think I told you, the -- the  
10 company was doing this virtual reality-ish thing. That was  
11 built on kind of a lower layer that was kind of a general  
12 programming framework. And I was responsible for developing  
13 that framework.

14 Q. How did you go about learning how to program in Java?

15 A. Uhm, at the time there were at least -- there were at  
16 least a couple books that were out, which I read a couple of  
17 them.

18 Q. Okay. And what ones did you read at the time?

19 A. Uhm, so I read one that's called *Java in a Nutshell*. And  
20 I read another one that's called the *Java Language*  
21 *Specification*.

22 MS. ANDERSON: Your Honor, may I approach?

23 THE COURT: Sure.

24 BY MS. ANDERSON:

25 Q. Mr. Bornstein, I'm showing you Exhibit 4027, which is

1 already in evidence in this case. Do you recognize this?

2 A. I recognize the cover, certainly.

3 Q. And what does it look like to you?

4 A. This looks like the *Java Language Specification*, the book  
5 that I just mentioned.

6 Q. Okay. And was this one of the books you read to learn how  
7 to program in Java?

8 A. It was.

9 Q. All right. Did you actually read this book?

10 A. Uhm, cover to cover, actually.

11 Q. Did the documentation you reviewed to learn how to program  
12 in Java include discussion of Java APIs?

13 A. Uhm, I'm sorry, say again please.

14 Q. Sure. Did the documents you reviewed, the treatises and  
15 things that you reviewed to learn how to program in Java  
16 include any discussion of Java APIs?

17 A. Oh, yeah, absolutely.

18 Q. And throughout the course of your history as a Java  
19 programmer, did you consider yourself free to use the Java  
20 programming language?

21 A. Oh, yeah, I did.

22 Q. And also during your career in working in Java  
23 programming, have you had an expectation as to whether or not  
24 you could use Java APIs as part of programming in the language?

25 A. It's really impossible to use the language productively

1 without using the APIs.

2 Q. What is an API?

3 A. Uhm, fundamentally, what I'd say is an API is an idea.

4 And it's an idea for how a computer programmer can write their  
5 program such that a associated implementation can act on that  
6 in a way that the programmer expects.

7 Q. Would you please give the jury an example of an API.

8 A. Sure. In -- if you think about computer programming, a  
9 lot of times you need to do kind of mathematical options. And  
10 so there would be like a set of APIs that have to do with math.

11 A simple one would be, say, to take the -- to take  
12 two numbers and get -- get which one is the maximum, which one  
13 is the larger of the two numbers. And a particular API will  
14 give, say, that kind of operation a particular name and a  
15 particular way of invoking it, of using it.

16 Q. All right. And in the Java programming language, do you  
17 have an understanding of what the max API relates to?

18 A. Yeah.

19 Q. Okay. Please describe that to the jury again.

20 A. Oh, okay. So the max API, that's exactly what I was  
21 saying. So there's a particular name of a class in Java. It's  
22 java.lang.math. And there's a particular thing called a method  
23 on it. The method has a name. That name is max. When you  
24 invoke it, you'll name the class and you'll name the method.

25 And then in parens you'll put two numbers or two

1 variables that represent numbers. And the result when that  
2 gets run is that the larger of those two numbers will get  
3 returned so that -- so, you know, as you're -- as the program  
4 proceeds now, instead of having two numbers, it has this one --  
5 this one maximum number from -- from the result of that  
6 operation.

7 Q. Thank you.

8 In learning how to program in Java, did you gain an  
9 understanding of what an API specification is?

10 A. Uhm, in -- well, I think I knew what an API specification  
11 was before I learned Java.

12 Q. Thank you.

13 Okay. What is an API specification?

14 A. Uhm, so an API specification -- so you know an API being  
15 an idea, ideas don't really have sort of substance in and of  
16 themselves. But, you know, there's different ways to get at  
17 what that idea is.

18 And an API specification is an attempt to write down  
19 for people, like for programmers, what the meaning of an API is  
20 in human terms so that computer programmers can successfully  
21 use or implement that API.

22 Q. Did the phrase "plain English" have any applicability to  
23 the concept of an API specification?

24 A. Yeah, absolutely. In an API specification, you would  
25 expect there to be a lot of plain English text explaining the

1 meaning of the various bits and pieces of an API.

2 **Q.** How about API implementation, what does that mean to you?

3 **A.** Uhm, an API implementation, that's the -- that would be a  
4 set of computer source code that is kind of on the other side  
5 of an API from the programmer who is trying to use the API.

6 Let's say going back to max, you know, say I as a  
7 user wanted to use this max operation, some other piece of code  
8 is going to implement that. So there's going to be the thing  
9 which receives the two numbers as arguments and causes like  
10 that result to come back. So that would be the implementation.

11 **THE COURT:** I want to go back. Stay on that for a  
12 moment. The example that you're giving using max, what is  
13 the -- what do you mean by API?

14 Do you mean the -- include the implementation? Do  
15 you mean just the one line that declares it? Do you mean the  
16 name, the code you put in to call up that API? What precisely  
17 do you mean by "API"?

18 **A.** What I would say is that the API is collectively what's in  
19 people's heads when they're either using it or implementing it.

20 For any given language, say, there's going to be some  
21 of that which, you know -- you know, like the way that you  
22 write a program there's certain -- you know, there's certain  
23 punctuation and there's certain, like, ordering of things and  
24 that kind of thing is going to be in people -- in people's  
25 heads, but, also, like the name is going to be there.

1 But part of it is just the sort of, like, meaning,  
2 you know. Let's say in the same way that you and I both know  
3 what a dog is, but we don't necessarily have, like, a written  
4 dictionary definition of a dog in our heads in the same way.

5 So you could think of it like what I know about Math,  
6 about max and Math is, like, I don't -- I don't have, like, a  
7 little snippet of documentation in my head. I kind of know  
8 what max means and --

9 **THE COURT:** Well, then why do people go to so much  
10 trouble to write things down if it's already in every one's  
11 head? What part of what is written down is the API?

12 **THE WITNESS:** Maybe I misspoke. It's not -- when --  
13 there was a time before -- let's say, if you were learning a  
14 new system, there's a lot of different ways that you will come  
15 to understand what the API is of that system. One of the ways  
16 would be by reading specification documents.

17 **THE COURT:** Well, I'll listen to the rest of the  
18 testimony before I ask any more questions.

19 Go ahead.

20 **MS. ANDERSON:** Thank you, your Honor.

21 **BY MS. ANDERSON:**

22 **Q.** Do you consider, Mr. Bornstein, for example,  
23 java.lang.Math.max to be an API?

24 **A.** Yes, absolutely.

25 **Q.** All right. And when you review a specification for an API



1 like that, do you expect to see something called a declaration  
2 there?

3 A. I would.

4 Q. And what is a declaration?

5 A. That's what I was getting at before.

6 There's a certain part of using an API where --  
7 there's a particular way, a particular pattern of text that you  
8 would have to write to use it. That's -- the declaration is  
9 meant to be suggestive of that in a way that's clear to a  
10 computer programmers.

11 Q. And in the declaration do you expect to see certain things  
12 as part of the calling on the API, as you described it?

13 A. Yes. You would see -- at some point you would see that --  
14 in Java you would see a name of a class, even though a class  
15 that the API it's associated with, you would expect to see the  
16 name of the method, for a method or a function.

17 You would expect to see a set of -- like, an  
18 indication of the arguments. So for Math.max you would expect  
19 to see sort of two slots kind of where you would be putting  
20 in -- where you would fill in numbers or variables that are  
21 supposed to represent numbers and you would see, like, an  
22 indication of what got returned as well.

23 Q. And in your experience is a function necessary to have  
24 that information to call that API?

25 A. Yes, that's right.

1 Q. You also talked earlier about the implementation and the  
2 fact that the API implementation is something in source code.

3 In your experience, for any API is there only one way  
4 to write the source code that gets compiled for a particular  
5 API?

6 A. No. There's lots of ways to write pretty much any  
7 implementation.

8 Q. How, if at all, does that relate to the idea of developing  
9 an independent implementation of an API?

10 A. Well, when you're developing -- if you're going to develop  
11 a new implementation of an API, the -- you know, the core  
12 source code, that core text that is sort of the effective part  
13 of that implementation, that could be written in many different  
14 ways and that's something where the combination, say, of  
15 experience and preference and taste of the implementer come  
16 into play.

17 Q. Let's discuss your time at Google. First, how did you  
18 come to work at Google?

19 A. I came to work at Google -- well, so I had been at Danger  
20 immediately prior. There was -- at the time I was starting to  
21 look for something new. There was a -- this separate company  
22 called Android, which I had had colleagues who had -- who were  
23 working there, people who I had met because of my work at  
24 Danger. And I talked with one of them to see -- like, I didn't  
25 really know what they were doing, but I had a guess and so I

1 plied one of them for details and it sounded like it actually  
2 might be a good fit for me.

3           So I kind of engaged in a discussion with them and  
4 during the course of my discussions, which was over a period of  
5 weeks or maybe even months, they got acquired by Google. So in  
6 the end I had a round of interviews at Google and accepted a  
7 job on the Android team.

8 **Q.** What was your role on the Android team?

9 **A.** I was a -- my initial role was as a software engineer and  
10 I eventually became a tech lead and a manager.

11 **Q.** And approximately when did you become tech lead and  
12 manager?

13 **A.** So those were two separate incidents. I guess I would say  
14 I became tech lead as soon as there was a second guy working on  
15 the stuff that I was working on, which would have been, I don't  
16 know, seven, eight months in, maybe a year in, something like  
17 that, something along those lines.

18           And I became a people -- like, a people manager maybe  
19 a couple years in. I couldn't tell you the exact dates.

20 **Q.** And approximately how many people reported to you as a  
21 manager?

22 **A.** At the largest point I think there were nine people  
23 reporting to me.

24 **Q.** And who did you report to during your years with Google?

25 **A.** I had, I think, three different managers over my time on

1 the Android team.

2 Q. When you first joined the Android team, did you gain an  
3 understanding about the general goals for Android at the time?

4 A. I think I understood the general thrust of Android.

5 Q. And what was that?

6 A. That was to have a new -- a new take on a platform for  
7 mobile devices that was aiming to be an Open Source platform.

8 Q. Did you have any understanding as to whether or not the  
9 Open Source platform was intended to be freely available?

10 A. Yes. I believe that the intent was to make Android, like,  
11 as freely available as possible.

12 Q. How far long was the project when you first arrived at  
13 Google?

14 A. When I first arrived at Google, it wasn't that far along.  
15 I think there was -- you know, there was some code. It was  
16 more like demo than implementation.

17 Q. What were your particular areas of responsibility on the  
18 Android team?

19 A. My main area was always at the -- at the platform layer.

20 Q. And did you have any responsibility for the virtual  
21 machine or core library development?

22 A. Oh, yes. My -- you know, my -- really, the center of my  
23 role was building this thing called a virtual machine and  
24 building -- or helping build the libraries, the library code  
25 that worked with that virtual machine.

1 Q. Okay. Mr. Bornstein, I would like to draw your attention  
2 to Exhibit 43.1, which has been blown up on a board here for  
3 you. And if -- can you see it okay from there?

4 A. Uh-huh.

5 Q. When you say that you worked on virtual machine and core  
6 libraries -- well, first, let me back up for a second.

7 Do you recognize Exhibit 43.1?

8 A. I do.

9 Q. What is it?

10 A. This is a diagram that was -- it's kind of a sketch of how  
11 the -- what the various pieces of the Android Platform are.  
12 This is something that we used in -- and I think it was on the  
13 website at some point.

14 It was also used in presentations. Like, I had it up  
15 as a slide for the presentation that I gave at, like, Google IO  
16 in 2008, for example.

17 Q. All right. And does Exhibit 43.1 indicate in any part the  
18 particular area you were working on as a member of the Android  
19 team?

20 A. Yes. If you look at the yellowish box toward the --

21 Q. Right here (indicating)?

22 A. Yes, that's the one. That whole box was pretty much my  
23 area of responsibility.

24 Q. Okay. Thank you.

25 Now, when you say "core library," what do you mean?

1 A. Well, when you're -- when you're thinking about a whole  
2 system, there will be -- there will be pieces of code and, in  
3 particular, libraries that have kind of an ordering to them  
4 where one library will depend on one or more other libraries or  
5 one or more pieces of other software.

6 So when I say "core," I really mean stuff that is  
7 what I would say sort of lower level than other pieces.

8 Q. Okay. Is there a relationship between a library and an  
9 API?

10 A. Yeah. Depending on what you mean. You could actually --  
11 you could use the terms interchangeably. Sometimes "library"  
12 means particularly implementation of an API.

13 Q. Based on your experience in working for Google and with  
14 the Android team, do you have a general sense of approximately  
15 how many lines of code are incorporated in this platform?

16 A. You know, I don't know an exact number, but I know it's  
17 like way north of like 10 -- 10, 11, 12 million, something like  
18 that.

19 Q. So more than 10 million lines of code?

20 A. Yeah, I believe so.

21 Q. And when you say that you were working on implementations  
22 with regard to the core library, what did you mean?

23 A. What I mean is that -- so if you look at those however  
24 many million lines of code, some of that was implementation of  
25 API, that was the API that a lot of the rest of the system

1 depended on.

2 Q. Were you working on implementing certain packages?

3 A. Yes.

4 Q. And packages, what's the relationship between packages and  
5 this box that's here, core libraries (indicating)?

6 A. You can imagine, if you could, sort of zoom in on the core  
7 libraries. You could draw another diagram that would have a  
8 bunch of other, say, little boxes in them. Each one of those  
9 might be representing a package, where a package is a set of  
10 APIs that are all similarly named and generally intended to be  
11 related to each other in some way.

12 Q. And how many packages are part of the core library?

13 A. In the core libraries I think the last -- the last time I  
14 checked, it was on the order of 60 or so, something like that.  
15 I don't -- I don't know. I can't tell you the exact number.

16 Q. Do you have an understanding about how many total packages  
17 are associated with the entire platform, not just the core  
18 library?

19 A. I think that's on the order of, like, 165, 170, something  
20 like that.

21 Q. And do you have an understanding in this case 37 packages  
22 are at issue --

23 A. Yes, I have heard that.

24 Q. (Continuing) -- a general understanding about that? All  
25 right.

1           **THE COURT:** Is an API the same thing as a package?  
2 If not, what is the difference?

3           **THE WITNESS:** Well, you can kind of slice and dice  
4 APIs in many ways. Sometimes an API -- and it kind of depends  
5 on context.

6           You might -- sometimes you might talk about an API  
7 being just a single method. So you could say, well, Math.max,  
8 that's an API, but you could also talk about the API of  
9 java.lang or, you know, the API -- or you could even say the  
10 API of a set of -- of a set of packages. And it's all kind of  
11 contextual.

12           **THE COURT:** Is there a "yes" or "no" answer to my  
13 question?

14           **THE WITNESS:** I'm sorry.

15           **THE COURT:** I asked: Is an API the same thing as a  
16 package?

17           **THE WITNESS:** Not necessarily, no.

18           **THE COURT:** Is it ever the same thing?

19           **THE WITNESS:** It could be, yes.

20 **BY MS. ANDERSON:**

21 **Q.** Let's talk about the core library and the work that you  
22 were doing. Did you have a role in determining which packages  
23 would be implemented as part of Android's core library?

24 **A.** I did.

25 **Q.** And what was your role?



1 A. My role was to, using my sort of experience and taste,  
2 figure out a set of -- a set of packages that are associated --  
3 that would be associated with the Java programming language, to  
4 figure out that set of packages that made sense to implement in  
5 the context of Android.

6 Q. Did your determination of what packages would be  
7 implemented in the core library have anything to do with what  
8 you thought were expectations of Java language programmers?

9 A. Yes, absolutely.

10 Q. And what did it have to do with that?

11 A. Well, you know, I was talking a bit about, like, what's in  
12 people's heads as part of what it means to be an API. And so  
13 as a Java programmer, as, say, a typical Java programmer,  
14 there's certain of these APIs which you just sort of, like,  
15 fundamentally think of as kind of part of -- part of the system  
16 that you can just use without really having to think too much  
17 about it.

18 And there are other -- there are other packages where  
19 it might -- you know, it might not be necessary, but it would  
20 be surprising to not find them. And, you know, there's kind of  
21 various -- you know, you can sort of, like, make various  
22 determinations about, say, any given API, any given package,  
23 any given method, any given class to figure out -- you know, to  
24 at least sort of have a best guess at, well, if I were a  
25 programmer programming on this system, would I -- would I

1 expect that to be there? Would I want it to be there? Or  
2 would I just not miss it?

3 And my job was sort of to kind of sift through all of  
4 that and come up with a nice and consistent set of APIs that we  
5 have would then implement and provide to developers.

6 Q. Was it your goal to assure that the packages that you  
7 think Java language programmers would expect to see there, to  
8 be able to use the Java language, be present in the core  
9 library?

10 A. Yes.

11 Q. Are you familiar generally with the idea that there are  
12 certain Java Platforms out there; Java ME, Java SE, Java EE?  
13 Have you heard about those generally?

14 A. I recognize those names. Yes.

15 Q. Did Android implement all the API packages present in any  
16 particular Java Platform?

17 A. No.

18 Q. All right. And why not?

19 A. That wasn't a goal of the project. The goal of the  
20 project was to provide something that was familiar to  
21 developers. It wasn't to provide any particular preexisting  
22 set of packages.

23 Q. Did you make any judgments in deciding what packages would  
24 be implemented in the core library based on whether or not  
25 certain APIs are even appropriate for a mobile platform?

1 A. Yeah, absolutely.

2 Q. And, please, explain what you mean by that?

3 A. Well, if you look at the -- say, the universe of packages  
4 that have been made for the Java language in general, some of  
5 them just don't really apply in -- or, you know, didn't apply  
6 in the case of what we were doing with Android.

7 And you can remember that, again, the point was to be  
8 a good mobile platform and there are certain constraints that  
9 that makes. You know, you can assume that the thing that  
10 you're running on is running on a battery, and that's -- that's  
11 a particular limitation. You can know that there's going to be  
12 less memory available than, say, on a desktop or a server.  
13 You'll know that, say, the typical CUP speed is going to be  
14 slower than you would find on a -- you know, on a desktop or  
15 server. And you'll also know that -- just the sorts of things  
16 that you would do as a mobile application are going to be  
17 different than the things that you would do if you're, say,  
18 sitting in a data center running a web server, for example.

19 It's just -- there's different -- there are different  
20 needs. And so to the extent that some of those needs are  
21 represented in potential Java packages, those are Java packages  
22 that we wouldn't necessarily -- you know, or, we wouldn't  
23 really want to -- to have an implementation for, especially in  
24 that it takes -- implementation takes up space and, you know,  
25 storage space on a mobile device an also limited.

1 Q. So did you, in fact, exclude from the API packages in the  
2 core library certain Java language APIs because you believed  
3 they were not appropriate for the mobile platform?

4 A. That's right.

5 Q. With respect to the API packages that Google actually did  
6 implement as part of the core library, did Google use Sun's  
7 source code for that implementation?

8 A. No.

9 Q. All right. Where did the source code implementation come  
10 from for the API packages that are implemented as part of the  
11 core library?

12 A. There are a few different sources. Would you like me to  
13 enumerate?

14 Q. Yes. Please explain to the jury, generally speaking,  
15 where the source code came from?

16 A. Okay. One of the bigger sources of code that we used was  
17 a project called Apache Harmony. Apache Harmony is itself a  
18 large body of code written in Java and other languages, and  
19 it -- it, itself, is an implementation of a Java language  
20 platform.

21 And Harmony itself wasn't appropriate to use  
22 entirely, but as an Open Source project it was -- it was  
23 actually a, you know, sort of expected use of its code for it  
24 to be incorporated into other Open Source projects as Android  
25 was and, in fact, the license was exactly compatible. So that

1 was one major source.

2 Another source was actually a project called Bouncy  
3 Castle, and it's an implementation of a bunch of APIs in Java  
4 that made sense to include in Android.

5 There are a few other Open Source libraries that we  
6 used. And, in addition, we wrote a lot of code from scratch  
7 ourselves and we had, we had a third-party contractor also  
8 write a bunch of the -- a bunch of the code.

9 Q. And with respect to the 37 packages that we're talking  
10 about in this case, did any of the code for the 37 purely come  
11 from Apache or purely come from Google?

12 A. I think if you look at any given package, it was -- it was  
13 always -- it always ended up being a mix of code from Google  
14 and code from, you know, one of the other sources.

15 Q. Okay.

16 THE COURT: May I ask a question? Can I ask a  
17 question on this subject?

18 MS. ANDERSON: Of course, your Honor. Thank you.

19 THE COURT: I'm trying to understand, and maybe the  
20 jury is trying to understand, and they are probably way ahead  
21 of me, but what was and was not the same as between Java on the  
22 one hand and Android on the other?

23 Here is what I hear you saying, but you tell me if  
24 this is right. Here is the part that was the same, the name;  
25 true?

1           **THE WITNESS:** You mean, of the -- say, of a method or  
2 a class?

3           **THE COURT:** Or -- yeah, the name. I guess -- what  
4 goes into a name? You tell me.

5           **THE WITNESS:** So maybe -- maybe this is what you're  
6 trying to get at. So let's just talk about --

7           **THE COURT:** Go ahead.

8           **THE WITNESS:** So let's just narrow and talk about  
9 Math. max for a second.

10          **THE COURT:** Okay.

11          **THE WITNESS:** The name of the class Math or in the  
12 case of Java it's going to be java.lang.Math, that is going to  
13 have to be represented in implementation for -- of -- of that  
14 API.

15               The name "max" is going to have to show up in the  
16 source code as well.

17          **THE COURT:** It's going to be the same on the Java  
18 version and the Android version?

19          **THE WITNESS:** That's right.

20          **THE COURT:** All right. And as I understand it, you,  
21 in fact, wanted to do that so that the programming community  
22 would feel comfortable using the same terminology?

23          **THE WITNESS:** Yeah. And, actually, not even just a  
24 matter of comfort, but there's a lot of source code out there  
25 that wasn't -- you know, wasn't written by -- well, that was

1 written by lots of people that already existed that could  
2 potentially work just fine on Android. And if we went and  
3 changed all the names of things, then that source code wouldn't  
4 just work --

5 **THE COURT:** All right. So the names are the same  
6 literally symbol-by-symbol.

7 **THE WITNESS:** Uh-huh.

8 **THE COURT:** Java versus Android, true?

9 **THE WITNESS:** If I understand you correctly, yes.

10 **THE COURT:** All right. And then the declarations,  
11 the same, right?

12 **THE WITNESS:** Umm, the -- there's a little -- a  
13 little bit of leeway in the declarations in that there are --  
14 there are variable names that are kind of built into  
15 declarations in the Java programming language, and there would  
16 be leeway in those, but in the rest of the declaration this  
17 would be none.

18 **THE COURT:** So like in the example of max where you  
19 can put in two -- compare two numbers, you might have X and Y  
20 and they may have A and B.

21 **THE WITNESS:** That's right.

22 **THE COURT:** But otherwise it's the same?

23 **THE WITNESS:** That's right.

24 **THE COURT:** All right. But then those are the parts  
25 that are the same.

1           **THE WITNESS:** That's right.

2           **THE COURT:** But the parts that you're saying are  
3 different is when you get into the line-by-line implementation  
4 of how the program carries out the function, you're saying  
5 that's different.

6           **THE WITNESS:** Yes. That's where there's -- there's  
7 an opportunity for a wide variety of -- you know, of  
8 differences.

9           **THE COURT:** But you're saying not that there is an  
10 opportunity, you're saying they are different.

11           **THE WITNESS:** Umm, what I would -- what I would  
12 expect is that, yeah, most of those implementations would look  
13 different.

14           And the color, I'd add, is that there's -- there are  
15 certain call them tropes of the trade where there's -- even  
16 though there is an infinite number of ways of writing some  
17 code, you would expect -- you would sort of expect it to be one  
18 way or another way, just given kind of how -- you know, sort of  
19 given the history.

20           **THE COURT:** You're talking about little twists and  
21 turns along the way or the entire thing?

22           **THE WITNESS:** Well, say, in the case of Math.max, the  
23 actual implementation is going to be pretty short. There's  
24 only -- you know, there's what I would say one pretty well  
25 expected way that you would see that written with maybe only a



1 couple of little variations, and it would be surprising to see  
2 something more twisty and turny.

3 If you're talking about something called a more  
4 heavyweight API that has some more semantic content behind it,  
5 you would expect it to be pretty different.

6 **THE COURT:** All right. Now, does an API have  
7 anything other than a name, a declaration and the implementing  
8 code? I guess there's the comments, too, right?

9 **THE WITNESS:** Yeah. An API implementation is  
10 certainly going to have the declaration part. It's going to  
11 have the body, the body of a function for a function  
12 implementation.

13 And, yes, comments, you would expect to see a number  
14 of comments.

15 **THE COURT:** All right.

16 **THE WITNESS:** At least any time there's something  
17 that's not obvious.

18 **THE COURT:** We understand about the plain English --  
19 not so plain, but about the English language comments.

20 But is there anything else? We've got name,  
21 declaration, implementing code, comments. Is there anything  
22 else?

23 **THE WITNESS:** You mean in an API implementation?

24 **THE COURT:** In an API.

25 **THE WITNESS:** Well, the API is --

1           **THE COURT:** Or the package. Whatever you want to  
2 call it.

3           **THE WITNESS:** Okay. So the API is not the  
4 implementation. You know, the API -- like I said, you know, I  
5 know the -- I know, like, a lot of Java APIs in my head, but I  
6 don't --

7           **THE COURT:** Well, what do you call that larger group  
8 that starts with name, declaration, implementing; is that a  
9 package? What is that? I mean, you must in your -- what do  
10 you call that?

11           **THE WITNESS:** Yeah. I would call that an  
12 implementation of, in particular, a method in this case.

13           **THE COURT:** All right. Whatever you want to call it.  
14 Is there anything besides the name, the declaration and the  
15 code and the comments?

16           **THE WITNESS:** And the comments. I think that pretty  
17 much covers it.

18           **THE COURT:** So the parts that are different are --  
19 are -- so are the comments different?

20           **THE WITNESS:** Umm, you would expect -- yes.

21           **THE COURT:** Java and Android you would expect  
22 different --

23           **THE WITNESS:** You would expect different comments,  
24 yes.

25           **THE COURT:** And you're saying you would expect

1 differences in the implementations, a lot of differences if  
2 it's long and fewer differences if it's short.

3 **THE WITNESS:** Yeah, absolutely.

4 **THE COURT:** And then the names and the declarations  
5 you're going to say are the same.

6 **THE WITNESS:** That's right.

7 **THE COURT:** Thank you.

8 Go ahead, counsel.

9 **MS. ANDERSON:** Thank you, your Honor.

10 **BY MS. ANDERSON:**

11 **Q.** Could you -- you used the word "tropes," which many people  
12 might not know what that means, including myself. Could you  
13 tell us what the word "tropes" means?

14 **A.** What I mean is, you know, there's -- let's just think  
15 about, like, the English language for a second. There's lots  
16 of ways to say, you know, any particular thing that you wanted  
17 to convey and -- but there's conventional ways to say some  
18 things.

19 So if, let's say -- let's say, I don't know. Let's  
20 say I ran out of milk and I wanted to tell someone I was going  
21 to go to the store pretty quickly because I really wanted to  
22 have milk. I would -- it would be unsurprising if I said, "Oh,  
23 hey, I'm going to run to the store to get milk." It would be  
24 odd if I said, "I'm going to perambulate over to that place  
25 where stuff is bought to buy some cow juice."

1 (Laughter.)

2 **A.** So in programming it's kind of the same way. There's sort  
3 of ways of saying stuff and there's ways of saying stuff.

4 **Q.** And are tropes things you expect Java programmers tend to  
5 learn when they learn how to program in Java?

6 **A.** Actually, even some of this -- some of this even  
7 transcends the Java language in particular.

8 So, I'm thinking about, like, how I might implement  
9 Math.max. I would have written something that looks very  
10 similar to the same implementation in the language C or C++,  
11 for example.

12 **MS. ANDERSON:** All right. With your Honor's  
13 permission, could the witness approach the sketch and just draw  
14 briefly this general source code implementation of max that  
15 he's been referring to during his testimony?

16 **THE COURT:** Okay.

17 **MS. ANDERSON:** Thank you.

18 (Witness steps down.)

19 **THE COURT:** Please keep your voice up. You don't  
20 have the microphone any more. We need your voice to be loud  
21 and clear, but you may go ahead.

22 **A.** Okay. So I have been talking about at least three things.  
23 See if I can do this.

24 So on the one hand there is the API. And then  
25 there's a specification. And there could be an implementation.

1           Okay. So API, that's, you know, what -- what's in a  
2 programmer's head. So I will -- let's see if I can -- so here  
3 is a programmer (witness drawing.) They are typing at their  
4 keyboard. And they are thinking, I want to get the maximum of  
5 two numbers. And I'm programming in Java.

6           So they are thinking, Okay. I know how to do that in  
7 Java. There's this thing called Math. You know, you call --  
8 you call this thing called max on it. You give it a couple of  
9 numbers, and you have some sort of idea about -- this is, like,  
10 maximum. So you're thinking, like, I want to get the maximum.  
11 There's this declaration, you know, kind of -- that's sitting  
12 in your head. You kind of understand how to use it.

13           The specification. So, maybe the first time that  
14 this guy encountered Java, they read some specification doc or  
15 maybe read some -- you know, read some books somewhere that  
16 said, well, here is all of the stuff.

17           So somewhere in that specification it would say --  
18 maybe a section about a class called java.lang.Math. And  
19 somewhere in there it would have listed Methods. And somewhere  
20 over there it would say, Oh, there's this thing.

21           So this would be like the declaration. "Static int  
22 max (int x, int y)." And then it would have some sort of text  
23 for people to read. "This method returns the larger of the two  
24 numbers passed into it."

25           So sometimes in the past this guy read this and said,

1 Oh, okay. Now I know how to use Math.max. So somewhere that  
2 Math.max has to have been implemented. And so this is like the  
3 thing that might be -- you might find inside the Android source  
4 code.

5 So there would be a file called Math. At the top of  
6 it -- so this is actually going to be as real as I can get in  
7 this space. There is going to be a package declaration.  
8 Package java.lang. And then there is going to be a class Math.  
9 And open curly brace. And there's going to be a bunch of  
10 definitions for such that aren't max. But eventually we'll get  
11 to the declaration for max. It will look something like this.  
12 "Public static int max (int x, int y)" and it's going to have  
13 another open curly brace.

14 And, as I said, it's actually a pretty short  
15 function. So just say, "Return (X > Y)? X:Y;" You have a  
16 close curly brace like this. And then there's going to be a  
17 bunch of stuff in this file that has nothing to do with that.  
18 And finally there's going to be a curly brace that closes off  
19 that whole section.

20 So something like this is going to be in the Android  
21 source code.

22 **THE COURT:** Is that what those are called, braces?

23 **THE WITNESS:** Yeah.

24 **THE COURT:** Those are the start and finish of what?

25 **THE WITNESS:** In the Java Programming language, as in

1 several others, curly braces are used to group several  
2 different things. So in this case it's being used in two --  
3 for two different ways.

4 One, to surround the entire class definition, and  
5 then also to surround this method definition. And then within  
6 a larger method you actually would have these braces to delimit  
7 other subsections.

8 **THE COURT:** All right. Thank you.

9 **MS. ANDERSON:** Thank you.

10 **THE COURT:** Are we done?

11 **MS. ANDERSON:** Thank you very much.

12 **THE COURT:** All right. Thank you.

13 (Witness resumes stand.)

14 **BY MS. ANDERSON:**

15 **Q.** So, Mr. Bornstein, when you said earlier that source code  
16 implementations can be written in a variety of ways for any  
17 particular API, is this the part that you were referring to,  
18 the actual source code (indicating) written out here?

19 **A.** That's correct.

20 **Q.** Now, tell us what is Apache Harmony?

21 **A.** So I think I talked about it a little bit. Apache Harmony  
22 an another Open Source project. It, itself, has a lot of code  
23 associated with it and it is an implementation of, among other  
24 things, a lot of Java language APIs.

25 **Q.** And I believe you testified earlier that was available on

1 an open source basis. That means it was freely available, is  
2 that correct?

3 A. That's right.

4 Q. Who at Google supervised the work of actually preparing  
5 Android's source code implementation for the core library?

6 A. I was responsible for that.

7 Q. And who, along with you, did that work?

8 A. So, you know, there were lots of team members over time.  
9 At any given time there was a designated core library lead and  
10 there was also several other folks who did implementation in  
11 general.

12 Q. Would you describe for the jury the work that was involved  
13 for Google to actually implement the API packages in the core  
14 library?

15 A. Sure. You know, I mean, it was -- there were a variety of  
16 tasks. You know, some -- let's say, you know, some of it  
17 was -- what really was just implementing new stuff pretty much  
18 from scratch. Some of it was taking -- again, taking code from  
19 Apache Harmony or these -- or the other Open Source projects  
20 that we were using; taking it, integrating it into the code  
21 base.

22 So this would be a combination of copying files, but  
23 then also adapting those files. So making edits to them to  
24 make them more appropriate to use in Android.

25 And, also, as I said earlier, we worked with a



1 contractor and they would produce a combination of new  
2 implementation and, also, they would be doing this same kind of  
3 activity of importing files and modifying them.

4 And so sometimes the task on the Google side was to  
5 take what they did and sort of integrate it up one level into  
6 kind of the bigger hole that we were all working on.

7 Q. Was this easy to do for Google? Was this easy work?

8 A. This was hard, a lot of hard work for several people.

9 Q. And for how many years did this development work go on?

10 A. I mean, it still goes on.

11 Q. And leading up to the actual first release of Android, how  
12 many years had you and your team been working on creating the  
13 source code implementations?

14 A. Well, to the first SDK release, that was a couple -- what,  
15 a couple years? 2005 through 2007. And another very intense  
16 year after that before the first device was launched.

17 Q. Were you aware of any efforts that Google took, if any, to  
18 assure that the Android source code implementations for the API  
19 packages were original or copied from open source organizations  
20 such as Apache Harmony and the like?

21 A. Yeah. We actually made a fair amount of effort in that  
22 regard.

23 Q. Okay. What efforts did Google take to assure that the  
24 Android source code implementation was either from open source  
25 or from Google's own work or the work of its contractors or a

1 combination?

2 **A.** Well, I mean, for one thing, we tried to emphasize to the  
3 Android team at Google that -- sort of what the appropriate  
4 stuff to do was.

5 I, myself, like, had, you know, in-person  
6 conversations, sent out emails, that kind of thing, about just  
7 that topic. And I know that in our -- you know, in our work  
8 with the third-party contractor, I know there was explicit  
9 language in, like -- like, in this contract that we had with  
10 them that laid out exactly what was appropriate for them to do.

11 **Q.** Okay. And when you're referring to instructions that were  
12 given about what was appropriate to use, can you be more  
13 specific about what instructions you gave?

14 **A.** Oh, I mean, the instructions were -- I think you can  
15 probably guess. You know, we said that it's okay to write new  
16 code. It's okay to use code from Apache Harmony in particular.  
17 It's okay to use code from Bouncy Castle in particular. There  
18 were a few other ones that, within the Android team, we made  
19 clear that those were okay.

20 One of them, let's say, there was Open SSL. There's  
21 one -- there was the ICU project is another. And so, okay to  
22 write code. Okay to import and adapt. And for anything that  
23 wasn't -- that hadn't previously been discussed, the -- you  
24 know, the deal was that you should always talk -- you know,  
25 sort of, like, bring it up and, you know, sort of like mention

1 it, say, to me or the core library lead and, you know, we  
2 would, you know, discuss it on up the chain to see if, like,  
3 there was some new package or, you know, some new library that  
4 somebody wanted to use.

5 Q. Thank you.

6 Are you familiar with a company called Noser?

7 A. I am.

8 Q. And what is Noser?

9 A. Noser is the third-party contractor company that I  
10 mentioned earlier.

11 MS. ANDERSON: Your Honor, may I approach?

12 THE COURT: You may.

13 (Whereupon, document was tendered  
14 to the witness.)

15 BY MS. ANDERSON:

16 Q. Mr. Bornstein, I'm showing you Exhibit 2765. Just take a  
17 look at that, if you will. It is in evidence. And let me know  
18 if you recognize any portion of this exhibit.

19 A. There's a lot of pages on this one. Not as many as the  
20 language spec.

21 Okay. I recognize a couple sections of this.

22 Q. Okay. What do you understand Exhibit 2765 to be?

23 A. Umm, so this looks like -- there's a few different  
24 documents kind of bundled in here, but I think together it  
25 probably is safe to say this is the contract or set of

1 contracts between Google and Noser.

2 Q. Okay. And that was the contractor that had done some work  
3 for Google for implementing certain packages, is that right?

4 A. Yeah, I believe so.

5 Q. All right. Based on your work at Google and your  
6 understanding about these documents, do you know whether or not  
7 Noser was provided with any guidance about what they could and  
8 couldn't do with regard to developing source code  
9 implementations for API packages?

10 A. Yeah. I believe something along the lines of what I just  
11 outlined is in here.

12 Q. Okay. Could you please show the jury what page you're  
13 talking about and, specifically, what guidance you're aware of  
14 they were provided?

15 A. Okay. Sorry. Give me just a sec.

16 Q. Sure. And for your assistance there are page numbers in  
17 the bottom left of every page. So if you want to say Page 9,  
18 10, 11, we can pull that one up.

19 A. Okay. Yeah. Okay. On Page 11 of 32.

20 MS. ANDERSON: Can we please have page 11 up?

21 (Document displayed)

22 MS. ANDERSON: Great.

23 A. At the top there's a section with four bullet items under  
24 it. Yep.

25

1 BY MS. ANDERSON:

2 Q. And please explain what guidance Google provided to Noser  
3 in terms of what they could do for creating the source code  
4 implementations?

5 A. So this -- these four bullet items were -- I think this is  
6 the -- each item was listing a thing which it was okay for  
7 Noser to do, and it was not okay for them to do anything else.

8 So the first item, it says, "Reuse and improve the  
9 code delivered by Google upon inception of the project."  
10 That's saying it's okay for Noser to use code that we had  
11 already developed as Google.

12 "Import and improve code from Apache or Bouncy  
13 Castle." Those are the two Open Source projects that we  
14 mentioned explicitly in here.

15 Let's see. "Import and improve code from any other  
16 Open Source project with prior approval from Google." So this  
17 was -- as with the instructions within the team, if Noser found  
18 another Open Source project that they wanted to be able to use,  
19 then it was not their judgment call. It was, you know, on  
20 Google to say "yes" or "no," they could or couldn't do it.

21 And then the last item is, "Write new code." So it  
22 was okay for them to write new stuff from scratch.

23 Q. Okay. And were these provisions important to Google?

24 A. I believe they were very important.

25 Q. And why is that?

1 **A.** Because I believe we took the issue of being able to open  
2 source this, you know, in -- under appropriate terms very  
3 seriously.

4 So if code got imported that was, you know, of an  
5 incompatible license, for example, that would have been, you  
6 know, a bad thing, something that we would have to then fix.

7 **Q.** I believe you mentioned earlier --

8 **MS. ANDERSON:** And we can take that exhibit down now.  
9 Thanks, Ben.

10 **BY MS. ANDERSON:**

11 **Q.** I believe you mentioned earlier that, approximately, the  
12 Android source code contains probably more than 10 million  
13 lines; is that a fair estimate?

14 **A.** Yes.

15 **Q.** All right. Did there come a point in time at which you  
16 removed certain code from the Android source code?

17 **A.** Yes.

18 **Q.** All right.

19 **MS. ANDERSON:** Your Honor, may I approach?

20 **THE COURT:** Yes, you may, but it's getting close to  
21 time for a break. How much longer do you have on direct?

22 **MS. ANDERSON:** I maybe have 10, 15 minutes, your  
23 Honor.

24 **THE COURT:** All right. We're going to break at this  
25 point for 15 minutes. Please remember the admonition.

1           **MS. ANDERSON:** Thank you, your Honor.

2           **THE CLERK:** All rise.

3           (Jury exits courtroom at 11:24 a.m.)

4           **THE COURT:** Please be seated.

5           Any issues for the Court?

6           **MR. VAN NEST:** I don't believe so, your Honor.

7           **MR. JACOBS:** Your Honor, we filed a motion a couple  
8 days ago now on the -- instructing the jury on the legal  
9 significance of the Apache situation and, more particularly,  
10 that if you take material from a third party and that third  
11 party does not have a license, you're not immunized by the fact  
12 that you took it from a third party. And I would just like to  
13 remind the Court that that is pending.

14           **THE COURT:** That's a good point.

15           Anything you want to say?

16           **MR. VAN NEST:** My only point was I think that there  
17 will be some upcoming testimony that will be of interest to the  
18 Court tomorrow on that subject.

19           **THE COURT:** I'm not going to instruct the jury now on  
20 this, but I will give them some instruction about licenses.

21           Anything more?

22           **MR. VAN NEST:** I don't believe so, your Honor. I  
23 believe we handed up the Ellison -- we did this morning. You  
24 have that, so...

25           **THE COURT:** You did, yes. You don't need that right

1 now, do you?

2 **MR. VAN NEST:** No, no.

3 **THE COURT:** Do you need it today?

4 **MR. VAN NEST:** I don't think so.

5 **THE COURT:** Maybe I can get to it at a break, but I  
6 may not get to it until we break for the day.

7 **MR. VAN NEST:** Your Honor, we won't need it until  
8 tomorrow, I don't believe.

9 **THE COURT:** 15 minutes. Thank you.

10 (Whereupon there was a recess in the proceedings  
11 from 11:26 a.m. until 11:40 a.m.)

12 **THE COURT:** May I bring in the jury, your Honor?

13 **MR. JACOBS:** Quick question, your Honor.

14 **THE COURT:** Please be seated.

15 **MR. JACOBS:** Given scope of his direct and the kind  
16 of tutorial nature of describing the API and what is the API, I  
17 would like to use a couple of exhibits in his cross-examination  
18 that we did not earlier disclose.

19 These exhibits include the Java API poster. I would  
20 like to situate this on the poster and then I would like to  
21 actually show him the documentation for APIs like max, in  
22 Java.Math, and the side-by-side of Java and Android  
23 documentation for those two. Google objects.

24 **MS. ANDERSON:** We do object. They have had certainly  
25 ample opportunity to disclose this information. It was no



1 secret. We would --

2 **THE COURT:** Please. This chart you know by heart by  
3 now. It's 1028, right?

4 **MR. JACOBS:** I believe so, your Honor.

5 **THE COURT:** That one is okay.

6 What's your objection to the second one?

7 **MS. ANDERSON:** I don't even know what he's referring  
8 to, but he hasn't provided it to me.

9 **THE COURT:** Show counsel what you're referring to.  
10 And it's certainly nothing I have had an opportunity to  
11 evaluate from the perspective of this witness, while Oracle had  
12 full knowledge of what Mr. Bornstein would testify about  
13 pursuant to your Honor's own disclosure rules.

14 **MR. JACOBS:** I'm going to show him Android  
15 documentation for java.Math.max, and I'm going to show him Java  
16 documentation for java.Math.max, and I'm going to ask him to  
17 correlate what he's put on his drawing here with what is in  
18 that actual documentation.

19 **THE COURT:** All right. I'm going to allow that to  
20 happen. It's just so closely related to what he has testified  
21 to. This is okay. Come on.

22 **MS. ANDERSON:** Your Honor, would you please ask  
23 Oracle's counsel to provide me with copies of what he is going  
24 to show the witness as well, since it is not something we were  
25 prepared for?

1           **THE COURT:** Yes, yes. You've got to do that.

2           **MR. JACOBS:** It's online, your Honor. It's a -- it's  
3 submitted to the Court --

4           **THE COURT:** How are you going to show it to the jury?

5           **MR. JACOBS:** We'll put it on the screen.

6           **THE COURT:** Show counsel on the screen then.

7           **MR. JACOBS:** We'll do that, your Honor.

8           **MR. VAN NEST:** Is this even a trial exhibit?

9           **MR. JACOBS:** Yes.

10          **MR. VAN NEST:** It is.

11          **THE COURT:** Well, while I'm getting the jury rounded  
12 up, please show counsel what you're talking about.

13                   (Brief pause.)

14          **THE COURT:** The jury is now coming in. Please rise.

15                   (Jury enters the courtroom at 11:43 a.m.)

16          **THE COURT:** All right. Please have a seat.

17                   Dawn is not quite here. I hope we don't need her.

18 But you may continue.

19                   Okay, your Honor. I did have one thing that  
20 potentially we might need Dawn for, but I'll hold off until she  
21 returns.

22          **THE COURT:** She will be here soon, I'm sure.

23          **MS. ANDERSON:** Thank you, your Honor.

24 **BY MS. ANDERSON:**

25 **Q.** So before we left, Mr. Bornstein, I had asked you whether

1 there came a point in time in which you removed certain code  
2 from Android. Do you remember that question?

3 **A.** I do.

4 **Q.** I believe you indicated there did come a point in time  
5 when you did that?

6 **A.** That's right.

7 **Q.** And approximately how many files did you remove some code  
8 from?

9 **A.** There were two files that I removed comments from, if  
10 that's what you're asking about.

11 **Q.** Okay. And were there other files from which you removed  
12 some code as well?

13 **A.** There were -- well, I mean, in a larger sense people  
14 are -- you know, I, like any programmer, are editing, adding  
15 and removing lines all over the place. But I think there's a  
16 particular -- a particular set of code that you're talking  
17 about.

18 **Q.** Okay.

19 **A.** There were -- I think there's eight files that were pretty  
20 much removed -- well, not pretty much. Were removed entirely  
21 from the Android tip of tree.

22 **Q.** Great.

23 **MS. ANDERSON:** Your Honor, may I approach?

24 **THE COURT:** You may.

25

1 (Whereupon, document was tendered  
2 to the witness.)

3 **BY MS. ANDERSON:**

4 **Q.** Mr. Bornstein, I'm showing you Exhibit 1072, and this is  
5 already in evidence.

6 (Document displayed)

7 **Q.** I suspect you haven't seen this exhibit before?

8 **A.** That's right.

9 **Q.** Okay. I would just like to draw your attention to the  
10 list that is under the word "Files" in the bottom left corner  
11 of Exhibit 1072.

12 **A.** Okay.

13 **Q.** And do you see on here a list of names of various files  
14 underneath that?

15 **A.** I do.

16 **Q.** Okay. And drawing your attention to the third through the  
17 tenth.

18 **MS. ANDERSON:** If we can get that highlighted?

19 (Document highlighted)

20 **BY MS. ANDERSON:**

21 **Q.** Did you remove code from these eight files?

22 **A.** I believe I removed those entire files from the -- from  
23 the Android tip of tree.

24 **Q.** And approximately when did you remove that from Android?

25 **A.** I think that was -- it was, like, the beginning of last

1 year, something like that.

2 Q. And then drawing your attention below that to the two  
3 files listed there, CodeSourceTest and  
4 CollectionCertStoreParametersTest; do you see that?

5 A. I do.

6 Q. Were these the files from which you removed some comments?

7 A. Yes.

8 Q. And approximately when did you do that?

9 A. Around the same time.

10 Q. Do you know who -- strike that.

11 Do you know from whom Google received the code that  
12 you actually removed in the 10 files you just identified?

13 A. I think those files all came to us via Noser.

14 Q. And is that also true for the two files from which you  
15 just removed some comments?

16 A. Yeah. I think those. Those files exist in Apache  
17 Harmony, but they made it -- they made it into the Android code  
18 base by way of Noser.

19 Q. All right. And drawing your attention to the top of  
20 Exhibit 1072, you see there are 37 API packages listed there?

21 A. I do.

22 Q. Okay. Do you know whether or not Apache Harmony offers  
23 its own implementation of those API packages?

24 A. Give me a second.

25 Q. Sure.

1 (Brief pause.)

2 **A.** Yeah, I'm pretty sure it does.

3 **Q.** All right. Let's talk a bit about specifications.

4 **MS. ANDERSON:** And now, your Honor, if I might, I  
5 would like to move in evidence the chart that Mr. Bornstein  
6 drew as Exhibit 3525.

7 **MR. JACOBS:** As a demonstrative, your Honor, but not  
8 moved into evidence.

9 **THE COURT:** 3525 will be a demonstrative marked, but  
10 not placed in evidence.

11 (Trial Exhibit 3525 marked for identification)

12 **BY MS. ANDERSON:**

13 **Q.** Let's talk a bit about specifications.

14 Mr. Bornstein, earlier when you drew for us on  
15 Exhibit 3525, you had a section where you described some  
16 specifications for the max function; do you remember that?

17 **A.** I do.

18 **Q.** All right. Are there specifications for the APIs in  
19 Android's core library?

20 **A.** There are.

21 **Q.** All right. Did Google write those specifications?

22 **A.** Google wrote some of those. Others of those were written  
23 by Noser, and others were -- came in through, like, Apache  
24 Harmony and the other Open Source projects that we used.

25 **Q.** Okay. Now, are you familiar Sun's Java documentation?

1 Have you heard of Sun's Java documentation?

2 **A.** You mean, the documentation that Sun provided with -- with  
3 their own products?

4 **Q.** Yes. Have you heard of that generally speaking?

5 **A.** Yes.

6 **Q.** All right. In the course of working on Android, are you  
7 aware of any Google engineers ever referring to any  
8 documentation relating to Java in terms of specifications?

9 **A.** You mean, did Google engineers say, like, "Read the Java  
10 documentation that was made available by Sun"?

11 **Q.** Sure. The publicly available information, yes.

12 **A.** I believe we did.

13 **Q.** Okay. Did Google's engineers copy the plain English  
14 descriptions of the APIs contained in Java's -- the Java  
15 documentation?

16 **A.** Not to my knowledge.

17 **Q.** Do you have an understanding as to whether or not  
18 Google -- Google's engineers were allowed to do that?

19 **A.** My understanding was that that would not be an acceptable  
20 thing to do.

21 **Q.** Did you instruct the people that worked with you not to do  
22 that?

23 **A.** In so many words, yes.

24 **Q.** Let's talk a bit about the Java language. In developing  
25 the Android Platform, did Google only consider the Java

1 language for the platform?

2 **A.** No, actually. Early on there were other alternatives that  
3 were considered.

4 **Q.** What other alternatives, in terms of languages, did Google  
5 consider?

6 **A.** The two other alternatives that I'm aware of were using  
7 Java script and using C++ as the basis for the -- for the  
8 developer APIs.

9 **Q.** Did there come a point in time when Google chose among  
10 them?

11 **A.** I don't know that there was an exact moment, but over the  
12 course of the development of Android, it -- the other two  
13 options that were being considered dropped by the wayside.

14 **Q.** Why is that?

15 **A.** You know, I think it's -- you know, there was a  
16 combination of the constraints of the -- like, the amount of  
17 people that we had working on it, the time that we wanted -- or  
18 the time that we had to spend on it. I guess that kind of  
19 covers the general shape of it.

20 **Q.** Let's turn a bit to the subject of discussions with Sun.

21 When you arrived at Google in 2005, were you aware of  
22 whether or not Google was having some discussions with Sun at  
23 the time?

24 **A.** I don't know that I knew anything immediately upon  
25 arriving at Google, but I did know sometime during my -- call



1 it my early months at Google, that there were some -- there was  
2 some amount of discussion with Sun.

3 Q. And did you participate in any of them?

4 A. I participated in technical conversations.

5 Q. When you say "technical," are you distinguishing that from  
6 a different kind of conversation?

7 A. Yeah. I'm trying to distinguish that from business  
8 conversations.

9 Q. And, specifically, were you a person who personally would  
10 have participated in any business discussions regarding any  
11 licensing?

12 A. No.

13 Q. You would not have participated in that, is that right?

14 A. That's correct.

15 Q. Generally speaking, the conversations that you  
16 participated in with Sun while you were at Google, what was the  
17 general topic of discussion?

18 A. The general topic was that Sun had some amount of  
19 technology, some code, and certainly some expertise that had to  
20 do with systems that used the Java Programming language, and  
21 the discussion was about whether Google -- the technical  
22 discussion was around whether what Sun had to offer in terms of  
23 this technology was appropriate for Android and whether it  
24 could be adapted to the environment that we expected Android to  
25 be deployed in.

1 Q. During the early years of your work at Google, had you  
2 heard any discussions within Google about the subject of build  
3 or buy? Have you ever heard a reference to that?

4 A. Yes.

5 Q. Okay. And generally speaking, what was that a reference  
6 to?

7 A. So build or buy is actually a pretty common distinction  
8 to -- or common choice to talk about in developing a larger  
9 software platform in that -- or a platform. I guess it could  
10 be of any size.

11 But the distinction, that's shorthand for do we build  
12 it ourselves or do we buy it, as in get it from somewhere else?  
13 And "buy it" doesn't necessarily mean for money. It's  
14 really -- it's really about the using of something that already  
15 exists versus making something from scratch.

16 Q. Okay. And in terms of the discussions internally at  
17 Google about reference to buy, was Apache Harmony referenced in  
18 that regard as a buy option?

19 A. Yes.

20 MS. ANDERSON: Your Honor, may I approach?

21 THE COURT: You may.

22 (Whereupon, document was tendered  
23 to the witness.)

24 BY MS. ANDERSON:

25 Q. Mr. Bornstein, I'm showing you Exhibit 272. What is that

1 exhibit?

2 **A.** Just a second.

3 **Q.** Sure. Take your time.

4 **A.** I think this is an automated email sent to me by Google's  
5 internal email system. The contents are a self review that I  
6 wrote. This is part of Google's employee evaluation program.

7 **Q.** Is there a regular business practice at Google about  
8 engaging in this kind of employee evaluation program?

9 **A.** That's right.

10 **Q.** Did you prepare these kinds of documents on a regular  
11 basis as an employee as part of your business practice?

12 **A.** I did, once or twice a year depending on the year.

13 **Q.** All right. And is this one that you prepared in regard to  
14 the period of December, 2006?

15 **A.** So this was -- I guess I submitted it in December of 2006  
16 and it would have covered the period from -- probably for me  
17 that would have been from when I joined through probably a  
18 month or -- a month or two before that date.

19 **MS. ANDERSON:** Your Honor, we move in evidence  
20 Exhibit 272.

21 **MR. JACOBS:** No objection, your Honor.

22 **THE COURT:** All right. Received in evidence.

23 (Trial Exhibit 272 received  
24 in evidence)

25 **MS. ANDERSON:** Thank you.

1 If we could have that on the screen for the jury,  
2 please?

3 (Document displayed)

4 **BY MS. ANDERSON:**

5 **Q.** With regard to Exhibit 272, Mr. Bornstein, I would like to  
6 draw your attention to the fourth paragraph down.

7 You see there where you wrote:

8 "While the above build work continues apace,  
9 the Android project continues to investigate  
10 the buy alternative of the build or buy  
11 question in terms of VM and Java library  
12 implementations."

13 Do you see where I've read from?

14 **A.** I do.

15 **MS. ANDERSON:** Can we get that highlighted, please,  
16 Ben?

17 (Document highlighted)

18 **BY MS. ANDERSON:**

19 **Q.** What did you mean by that when you wrote that?

20 **A.** You know, as I said before, build or buy is this choice  
21 that you can make in developing a larger system.

22 And what I was referring to is that I -- sorry.  
23 During this period of time, I kind of had two jobs. I kind of  
24 had two hats on. With one hat I was trying to build a new  
25 implementation, you know, from scratch. And with another hat I

1 was asked to evaluate various technologies from various  
2 companies.

3           And so what I'm saying here is, you know, like many  
4 things, this -- like -- so this is a self review. I'm trying  
5 to be kind of self congratulatory and kind of puff myself up.  
6 So, I'm saying, "Hey, I'm doing these two different things.  
7 I'm building something and I'm okay with it, that not coming to  
8 fruition because I'm also investigating these buy  
9 alternatives."

10 Q. Had you been wearing these two hats for the period leading  
11 up to this date at Google?

12 A. Yeah. I think I -- it's safe to say I was wearing both  
13 hats consistently through that entire period of time.

14 Q. Ultimately did Google select between the buy and the build  
15 option?

16 A. Ultimately it really became a hybrid.

17 Q. What do you mean by that?

18 A. What I mean is that we did build an awful lot of stuff  
19 just internally from scratch, but we did also acquire --  
20 acquire -- technology acquired source code from other  
21 preexisting packages, you know, from other preexisting  
22 libraries and the like, and that includes Apache Harmony.

23           And that said, you know, we didn't just take Apache  
24 Harmony straight. We took it and we did a lot of editing. You  
25 know, we worked on that code a lot to make it work -- well,

1 sometimes work at all in the environment for Android, but also  
2 sometimes just merely to work better in the environment of  
3 Android.

4 Q. Okay. Now, did there come a point in time when Android  
5 ultimately was released?

6 A. Yes.

7 Q. And when was that?

8 A. The -- there was an SDK release that was meant for  
9 developers to use. That was in late 2007. And a year or so  
10 later there was the first device released that used Android.

11 Q. When you say "the first device released," do you mean the  
12 first smart phone?

13 A. Well, I mean, that first -- was it the G1? Yeah.

14 Q. And what is the G1?

15 A. Umm, the G1 is -- well, it was a smart phone, had a  
16 keyboard and a touch screen and a track ball and the platform  
17 that it ran was Android.

18 Q. Now, in the process of the work that you were engaging in  
19 in getting the Android platform ready for release, did Google  
20 undergo any effort to remove reference to trademark terms from  
21 Android?

22 A. Oh, yes, absolutely.

23 Q. Please explain to the jury what you mean by that?

24 A. Okay. You know, I'm not a lawyer myself. I'm certainly  
25 not a trademark lawyer. But I do understand that -- you know,

1 kind of the general shape of what it means to have a trademark.

2           And I, and many folks on the Android team, knew that  
3 Sun had a trademark for the term "Java." And what we  
4 endeavored to do was be very -- be very careful about not  
5 misusing that trademark. And so, you know, several folks spent  
6 a lot of time looking at, like, the source code that we were  
7 about to release and trying to make sure that when we were  
8 using the term Java, it wasn't in a context that might raise  
9 trademark flags.

10           So what I would say is, at least for myself, I tried  
11 to be fairly conservative about -- about not using the term  
12 "Java." So there's sometimes when -- there are times when,  
13 like I say, in programming the Java Programming language, I  
14 don't think anyone thought that there was any problem with  
15 using the Java Programming language. And in order to use the  
16 Java Programming language, you actually have to use the term  
17 "Java" kind of all over the place.

18           So, you know, we didn't consider that to be a  
19 problem, but if there was, say, something in a comment or, you  
20 know, even sometimes like the name of a field or a method that  
21 might seem to -- like, that wasn't necessarily, like, you  
22 know -- wasn't necessary for the implementation -- say, the  
23 implementation of a Java API, then we were trying to err on the  
24 side of not using the term Java there.

25 Q. Did you ever see correspondence internal to Google

1 referencing this effort to make sure there were no trademark  
2 references?

3 **A.** Oh, yeah. I'm sure there were -- there were -- I mean, we  
4 emailed about it. It was a task that fell upon people to do.  
5 So inevitably there was -- there were emails. There were bugs.  
6 There was check-in comments. The whole nine yards.

7 **Q.** And were the words "scrub" or "sanitize" used in  
8 connection with this effort?

9 **A.** I wouldn't -- I wouldn't be surprised on "sanitize." I'm  
10 pretty sure I used the term "scrub." I use that in multiple  
11 contexts.

12 **Q.** Okay. And is the word "Java" the only word that Google  
13 made an effort to scrub or sanitize out of Android before it  
14 was released?

15 **A.** No, I don't think so. I think there was -- there was a  
16 set of things that we were looking for. I mean, one of them  
17 was, like, bad words.

18 **Q.** So if a bad word had somehow made its way into a comment,  
19 that would be removed?

20 **A.** Yeah. We didn't want to have a potty mouth in front of  
21 the world.

22 **Q.** Okay. You said that there are some places where the word  
23 "Java" is used as part of the language. It couldn't,  
24 obviously, be scrubbed out of the code from Android.

25 What did you mean by that? Could you give us a



1 specific example?

2 **A.** Sure. Actually if you look back at the diagram that I  
3 wrote.

4 **Q.** Sure.

5 **A.** In, say, implementing this Math API, well, the Math API  
6 has a name, and part of that name is a package, and part of  
7 that packaging name is the term "Java."

8 So there's no way you could have implemented the  
9 usual common expected Math API without using the term "Java."

10 **Q.** Now, let's talk a bit about the release. I know you  
11 mentioned earlier that in, approximately, November of 2007  
12 Google released this Android SDK; is that right?

13 **A.** I'm sorry. Say again?

14 **Q.** The SDK for Android was released in 2007; is that what you  
15 said earlier?

16 **A.** That's right.

17 **Q.** All right. What is the SDK?

18 **A.** The SDK. So SDK stands for Software Development Kit. In  
19 general, an SDK is a set of software which is meant for  
20 developers to use to help them write other software.

21 You know, you can think of it as a toolkit for -- and  
22 that's the kit. That's the "K." A toolkit for developers to  
23 use to help them write software in a particular context.

24 So the Android SDK was an SDK intended to help  
25 developers write code for Android.

1 Q. And did the SDK released in 2007 include the 37 API  
2 packages?

3 A. I believe it did.

4 Q. When Android was released, did you become aware of whether  
5 or not Sun made public statements about Android's release?

6 A. Yeah, I did.

7 MS. ANDERSON: Your Honor, may I approach?

8 THE COURT: Yes.

9 (Whereupon, document was tendered  
10 to the witness.)

11 BY MS. ANDERSON:

12 Q. Mr. Bornstein, I'm showing you Exhibit 2352, which is  
13 already in evidence.

14 (Document displayed)

15 Q. Have you seen this before?

16 A. I believe I have.

17 Q. What is it?

18 A. It's -- you can see at the top it says "Jonathan's Blog."  
19 I believe that's Jonathan Schwartz, who at the time was the CEO  
20 of Sun, I think. And he wrote this blog post -- actually, you  
21 can see the date, November 5th, 2007. It's kind of a little  
22 bit hard to read, but it's kind of towards the bottom -- I  
23 guess toward the middle of the page, but toward the bottom of  
24 his part of the post. And it's congratulating -- the title is,  
25 "Congratulations Google, Red Hat and the Java community." And,

1 you know, the gist of it is that he is congratulating --

2 **MR. JACOBS:** Your Honor, I think we haven't laid a  
3 proper foundation for asking this witness about this yet and  
4 he's reading it.

5 **MS. ANDERSON:** I'm happy to lay a foundation.

6 **THE COURT:** How many times are we going to see this  
7 document?

8 **MS. ANDERSON:** Well, your Honor, it's important.

9 **BY MS. ANDERSON:**

10 **Q.** Mr. Bornstein --

11 **THE COURT:** But he's just giving a present day  
12 speech. If he saw this back at the time in question and did  
13 something in reliance on it or whatever, okay. You can go  
14 through that. But this is just a speech about -- this is your  
15 closing argument.

16 **MS. ANDERSON:** Your Honor, actually, I do have a  
17 question I think you will appreciate in that regard.

18 **THE COURT:** I will sustain the objection, but you can  
19 try again with a fresh question.

20 **MS. ANDERSON:** Sure.

21 **BY MS. ANDERSON:**

22 **Q.** Mr. Bornstein, when did you first review this?

23 **A.** I first saw it probably the day after it was posted.

24 **Q.** All right. Was the language in this release important to  
25 you at the time?

1 A. Oh, absolutely.

2 Q. Why?

3 A. It was important because, you know, leading up to it I  
4 had -- my impression was that Sun actually had kind of -- was  
5 sour on Google. So I was very happy to see, actually, their  
6 CEO is saying that Android was actually something that they are  
7 interested in.

8 Q. Are you aware as to whether or not this blog post was, in  
9 fact, circulated internally at Google?

10 A. I believe it was.

11 THE COURT: You believe it was? That's a -- a belief  
12 is just an opinion. We want real memories, and not beliefs.

13 Do you have a memory that it was circulated?

14 THE WITNESS: Uhm, I don't specifically --

15 THE COURT: Okay, then. We're not going to get into  
16 beliefs.

17 MS. ANDERSON: Thank you, Your Honor. I actually  
18 have a document related to this. If I may approach, Your  
19 Honor.

20 BY MS. ANDERSON:

21 Q. Mr. Bornstein, I am showing you Exhibit 3470.

22 THE COURT: Well, if we're going to get into beliefs,  
23 then on cross-examination it's going to be belief city. So  
24 remember that when your objections start rolling out, whenever  
25 it asks for speculation, beliefs, and everything else.

1 All right. Go ahead.

2 MS. ANDERSON: Thank you, Your Honor.

3 BY MS. ANDERSON:

4 Q. Mr. Bornstein, I am showing you Exhibit 3470.

5 First, would you please tell us, among whom is this  
6 an e-mail exchange?

7 A. Uhm, the -- if you look at the cc line -- okay. So it's  
8 from -- from Bob Lee. He was on the Android team at the time.  
9 The to line and the cc are two other members of the Android  
10 team.

11 And on the cc line it says "Android-eng." That's the  
12 mailing list, the internal Android mailing list for all  
13 engineers.

14 Q. And what is the date of this e-mail?

15 A. It's November 6, 2007.

16 Q. What is -- strike that.

17 Were you a member of the Android-eng mailing list at  
18 the time of this e-mail?

19 A. I was.

20 Q. Did you receive this e-mail, Exhibit 3470?

21 A. I'm sure I did.

22 Q. Do you recall reviewing this exchange in or around  
23 November of 2007?

24 A. I don't remember this e-mail specifically, but I do  
25 remember discussing the blog posts.

1 Q. Do you have a recollection of the blog post, in fact,  
2 being circulating on the Android-eng mailing list?

3 MR. JACOBS: Objection, Your Honor. That was asked  
4 and answered.

5 MS. ANDERSON: No, it was not, Your Honor.

6 THE COURT: You said you only had a belief. Do you  
7 actually have a recall of seeing this document? Of it being  
8 circulated, I mean. Earlier you said you believed it was.

9 THE WITNESS: I remember -- I remember discussion  
10 about it. I don't remember a specific e-mail.

11 THE COURT: Well, then, the answer is he -- no, he  
12 doesn't remember it being circulated. He remembers a  
13 discussion. Those are two different things.

14 MS. ANDERSON: Thank you, Your Honor.

15 No further questions. Thank you.

16 THE COURT: All right. Cross-examination.

17 CROSS EXAMINATION

18 BY MR. JACOBS:

19 Q. Mr. Bornstein, could you take a look at Exhibit 1072 in  
20 front of you, please. That's the list of files and packages  
21 that are accused.

22 And I would just like to recapitulate your role here  
23 in testifying today, as it relates to these packages and files.

24 So, first of all, as to the API packages, you're the  
25 one who actually decided which ones of the Java API packages

1 would be implemented in Android, correct?

2 **A.** Uhm, not exactly correct. I had a hand in it. I believe  
3 I was an influential hand, but I wasn't the only hand in it.

4 **MR. JACOBS:** Could we have that up, please.

5 (Document displayed.)

6 **BY MR. JACOBS:**

7 **Q.** I thought you said on direct that you were the one who  
8 made the judgment about which of the APIs belonged in Android  
9 based on what developers would expect.

10 **A.** I -- I was the tech leader at the time. And so that was,  
11 uhm -- you know, I -- I was the one who came up with a initial  
12 list. There was a -- I mean, there was discussion about --  
13 about things. I wouldn't -- I wouldn't say that I was the only  
14 person who contributed to that, but I was responsible for it.

15 **Q.** So you're the responsible person for the fact that in  
16 terms of as between whether it was 37 or 38 or 39, it's 37 and  
17 it's this 37; correct, sir?

18 **A.** Uhm, I think -- well, why don't I give you the sequence of  
19 events.

20 **Q.** That's all right. I'll withdraw the question.

21 **A.** Okay.

22 **Q.** As to the files at the bottom of 1072, there you are the  
23 taker-outer; is that right?

24 **A.** Not for the first two.

25 **Q.** Ah. So for the files below Timsort and

1 ComparableTimSort.java -- that is starting with  
2 AclEntryImpl.java -- you're the one who took them out, right?

3 A. I was the one who did the edits for those.

4 Q. Can you describe precisely what you did such that those  
5 files are taken out of Android?

6 A. What I did was, uhm, use a -- uhm, a set of tools, which  
7 are -- uhm -- there's -- it's called -- the general term is  
8 called "source control."

9 So Google uses -- for Android, uses a particular set  
10 of source control tools. And using those tools, I, uhm, edited  
11 some files and removed other files such that the, uhm -- the  
12 current version of the Android source, uhm, wouldn't have --  
13 well, in the case of the eight files, those files would no  
14 longer appear. And in the case of the last two, such that the  
15 comments wouldn't appear in -- in the Android tip of tree.

16 Q. You referred to the current version of Android source,  
17 sir. What do you mean by that?

18 A. Android is a living project. And at any given time there  
19 is, you could call it, the latest version. And that's what I  
20 mean by the "current version."

21 Q. What was that version from which you -- if there's a  
22 before and after here --

23 A. Uh-huh.

24 Q. -- what is the after for the version that does not contain  
25 the files that you removed?



1 **A.** Uhm, the version -- uhm, there's no -- there's no  
2 particular number -- I mean, there's no particular like number  
3 or label associated with it, other than it being, as I said,  
4 it's the tip of tree.

5 So there are -- let's see. There are several  
6 named -- uhm, it's things called branches of the source code.  
7 So, you know, at any given time, there can be multiple lines of  
8 development happening. And in the style of Android, the,  
9 uhm -- call them -- they're major thrusts of development that  
10 have different names.

11 In Android's case, they happen --

12 **THE COURT:** This is too long.

13 Look. I don't know if you're doing this on purpose.

14 **THE WITNESS:** No, sir.

15 **THE COURT:** This is -- you answer these questions  
16 briefly, because Mr. Jacobs is on a clock. You're burning up  
17 his time. So you can answer these questions "yes," "no," or  
18 with one sentence.

19 I'm sorry to be a little stern with you, but this is  
20 not an opportunity to make a closing argument. I want you to  
21 answer the question "yes," "no," or a single sentence.

22 Mr. Jacobs, please ask questions that call for such  
23 an answer, and then we will move this right along.

24 **BY MR. JACOBS:**

25 **Q.** So let me ask my question again, Mr. Bornstein.

1 A. Okay.

2 Q. At what point were these files released in terms of the  
3 version history of Android?

4 A. Uhm, they were -- I don't know exactly when they were  
5 released.

6 THE COURT: That's the answer.

7 THE WITNESS: Okay.

8 THE COURT: Next question. He doesn't know.

9 BY MR. JACOBS:

10 Q. If one looked at the prior release of Android, would one  
11 still see these files present?

12 A. Uhm, depends on what you mean by "the prior release."

13 Q. The release before the release in which the deletion  
14 occurred.

15 A. Uhm, I mean, --

16 Q. Can't answer --

17 A. I'm sorry, really sorry, Your Honor. That gets to why I  
18 was saying what I was saying before.

19 Q. Let me ask it this way, sir. If one goes to the Android  
20 website and if one went to the Android website after you had  
21 deleted the files, and you wanted to find a version of Android  
22 that had the files in them, the ones that you deleted, could  
23 you still find them?

24 A. Uhm, again, depends on what you mean by "version."

25 THE COURT: Look. I'm going to ask the question

1 myself.

2           **THE WITNESS:** Okay.

3           **THE COURT:** Isn't it true that within recent months  
4 you could still go on the Google website and find these very  
5 files with the same code in there? True or not?

6           **THE WITNESS:** You can look at the history and see  
7 those files.

8           **THE COURT:** So it's there, available to the public.  
9 True?

10           **THE WITNESS:** Fair enough.

11           **THE COURT:** All right. Isn't that your point?

12           **MR. JACOBS:** It was, Your Honor. Thank you. I wish  
13 I had done it as crisply.

14 **BY MR. JACOBS:**

15 **Q.** Now, Mr. Bornstein, you told us a bit about the  
16 java.lang.math.max method, right?

17 **A.** Yes, that's right.

18 **Q.** I would like you to take a look at a poster that the jury  
19 has become somewhat familiar with, the Java Class Libraries  
20 poster. And it is Trial Exhibit 1028.

21           And you're familiar with the application programming  
22 interfaces; correct, sir?

23 **A.** I'm not familiar with this poster.

24 **Q.** You know where java.lang is; don't you, sir?

25 **A.** I do know what java.lang is.

1 Q. Do you see it there?

2 A. I see it there.

3 Q. And could you find the max method. Let me hold -- we'll  
4 hold it together.

5 A. This is -- this poster does not have -- doesn't look like  
6 it has methods listed on it.

7 Q. Because methods are at below the level of detail of this  
8 poster; correct, sir?

9 A. Yes.

10 Q. And what this poster shows is packages and classes and  
11 interfaces, and other structural elements of the Java  
12 application programming interface; correct, sir?

13 MS. ANDERSON: Objection. Foundation and compound.

14 THE COURT: This is equivalent to the type of  
15 questions you asked based on belief, speculation, and so forth.  
16 So this question will be allowed.

17 Go ahead.

18 THE WITNESS: I didn't get a chance to look at the  
19 entire poster, but it looked to me, from looking at java.lang,  
20 that it was -- that this is a sketch of those packages.

21 BY MR. JACOBS:

22 Q. And so when you were asked by Google's counsel to describe  
23 what was taken from the Java application programming interface  
24 into Android, you were talking about a level of detail that's  
25 even below the level of detail shown here; weren't you, sir?

1 A. I'm not sure I understand. I'm sorry.

2 Q. Max isn't on here, right? `Java.lang.math` is there, but  
3 `.max` is not; correct, sir?

4 A. That's right.

5 Q. Because it's a level of detail in the `Math` class that is  
6 even more detailed than what's shown?

7 A. Uhm, in this case, yes.

8 Q. So with respect to `java.lang`, sir, `java.lang` is one of the  
9 packages that has the exact same structure in Android as it has  
10 in Java; correct, sir?

11 A. At this level of detail, yes. But at the detail level,  
12 no.

13 Q. At the level of detail of this poster, it's the exact same  
14 structure; right, sir?

15 A. Well, I would actually have to take a very close look.

16 Q. Do you have any doubt that you've implemented the  
17 `java.lang` package in your -- in order to meet the expectations  
18 of developers who have used this in the Java world?

19 A. Our intent was to have all of the normal classes in  
20 `java.lang`, but not all of the methods.

21 Q. So maybe a subset of the methods, but all the classes?

22 A. That's right.

23 Q. And what subset would you say, what percentage?

24 A. Most. But I don't know that I could give you a number  
25 percentage.

1 Q. 90 percent?

2 A. Again, I don't know that I could give you a number  
3 percentage.

4 Q. Could you build or buy the application programming  
5 interface for the java.lang package?

6 A. You mean the implementation?

7 Q. No.

8 A. Uhm, the API wasn't bought. The API is an idea. The  
9 implementation is -- you know, the code that we use, that's the  
10 implementation.

11 Q. So you neither built nor bought the API for the java.lang  
12 package; correct, sir?

13 A. If I understand you correctly, yes.

14 Q. And that's true for all of the 37 packages that were  
15 implemented from the Java API into Android; correct, sir?

16 A. I'm sorry. Say again, please.

17 MR. JACOBS: Read it back.

18 (The reporter read the pending question.)

19 THE WITNESS: Our intent -- yes, if I understood you  
20 correctly.

21 BY MR. JACOBS:

22 Q. Now, you say this is an idea but, in fact, developers who  
23 are writing the code that you described are deriving that code  
24 from the specification; correct, sir?

25 A. Uhm, there is no one specification.

1 Q. Well, you show the specification here for java.lang.math  
2 with the method max, right?

3 A. That's my specification that I wrote.

4 Q. Well, there was a Java specification for that very class  
5 and method; correct, sir?

6 A. There was also a specification in *Java in a Nutshell*.  
7 There was also specification in the -- I believe, in the  
8 Harmony code.

9 Q. Could you just answer my question, sir.

10 MR. JACOBS: Could you read it back.

11 (The reporter read the pending question.)

12 THE WITNESS: Uhm, I believe there's at least two  
13 different, possibly more, specifications from Sun for -- for  
14 the Math class.

15 MR. JACOBS: And could we have that up on the screen,  
16 Mr. Lee. This is from Trial Exhibit 610.2.

17 (Document displayed.)

18 BY MR. JACOBS:

19 Q. Now, you testified on direct, sir, that you and your team  
20 looked at the Java specifications for these application  
21 programming interfaces while you were doing your work on  
22 Android; correct, sir?

23 A. That's right.

24 Q. And you did that in order to derive from these  
25 specifications the information you needed in order to write

1 that code; correct, sir?

2 A. Some of the information.

3 Q. And so you were looking at the specification in order to  
4 derive the implementation that you've described here on your  
5 poster; correct, sir?

6 A. Well, I think we gained -- you know, we certainly gained  
7 an understanding for some APIs. But I'm not -- I'm not sure --  
8 I'm not sure I agree with your full statement there.

9 Q. Is the -- is there some other authoritative source that  
10 your developers actually use, sir, in developing the packages  
11 that correspond, the 37 packages that are on 1072, an  
12 authoritative source for the Java API specification?

13 A. Is there an authoritative source?

14 Q. (Nods head.)

15 A. I mean, there's lots of sources. I don't know like what  
16 you say is an authoritative source or not. The Harmony  
17 documentation is actually pretty well-written, for the most  
18 part.

19 Q. That wasn't my question, sir.

20 A. Okay.

21 Q. I was asking you about what your developers used, what  
22 they derived the information they needed, in order to write  
23 code that complied with the Java API and, in that sense, was  
24 authoritative.

25 A. I think if you look at what -- what actually happened in



1 the process, an awful lot of stuff came from Apache Harmony.  
2 That came implementation already in hand, and with  
3 documentation already -- already there.

4 I think, at least from my own experience, what I did  
5 a lot of was use that implementation -- that -- that  
6 implementation and that documentation as a basis for further  
7 development.

8 Q. And so is the answer to my question "yes" or "no," sir?

9 A. What's the question, again?

10 Q. When you were looking for an authoritative source of the  
11 application programming interface, when you were developing the  
12 class libraries for the 37 packages in Android that correspond  
13 to Java, did you rely on the Java documentation for those  
14 interfaces?

15 A. If -- I mean, if there was like a -- you know, like a  
16 nuance question, sometimes, you know, you would have to use a  
17 lot of sources to try to figure out what the -- what the real  
18 meaning is. And the Sun documentation was certainly one of  
19 those sources.

20 THE COURT: Are you saying that's the only time you  
21 ever looked at Sun documentation?

22 THE WITNESS: Uhm, I wouldn't say that's the only  
23 time I looked at Sun documentation. But that's the memorable  
24 time.

25 You know, as an API implementer, there are --

1 actually, as an API implementer who knows Java, I don't have to  
2 look at API documentation for a lot of things. But sometimes  
3 there's like a question about -- like if there's two different  
4 error conditions, which one is the one that gets indicated?  
5 And there's a few different ways that you can figure that out  
6 or, you know, figure out what -- like which error to throw.  
7 And the documentation is sometimes not always a good way to  
8 figure that out.

9 **BY MR. JACOBS:**

10 **Q.** And, sir, where did the Apache developers get their  
11 information in order to implement their class libraries?

12 **A.** I don't know.

13 **MS. ANDERSON:** Object. Foundation.

14 **BY MR. JACOBS:**

15 **Q.** You have no idea?

16 **THE COURT:** Overruled. Please, answer.

17 **THE WITNESS:** I'm sorry.

18 **BY MR. JACOBS:**

19 **Q.** You have no idea, sir?

20 **A.** I didn't work with the original Apache developers. I  
21 don't know. I don't have firsthand knowledge of ...

22 **Q.** So let's understand. You were also part of the decision  
23 to import these libraries from Apache Harmony, correct?

24 **A.** That's right.

25 **Q.** And you were, therefore, relying on how Apache Harmony,

1 what process they went through in developing those libraries,  
2 correct?

3 A. That's right.

4 Q. And you had never checked whether they had actually looked  
5 at the Sun documentation in developing those libraries?

6 A. No.

7 Q. Because you just assumed they had; isn't that true, sir?

8 A. No, that's incorrect.

9 Q. Now, in Android, as in Java, the following is true: The  
10 documentations --

11 MR. JACOBS: In fact, could we have 767 for class  
12 Math, Mr. Lee.

13 (Document displayed.)

14 BY MR. JACOBS:

15 Q. So, sir, I'm showing you the Math class documentation from  
16 Android. Do you see that?

17 A. Uhm, yeah, I see what you're showing.

18 Q. And that --

19 MR. VAN NEST: Don't write on there.

20 MR. JACOBS: I may look like I am.

21 MR. VAN NEST: You scared me.

22 BY MR. JACOBS:

23 Q. The source of that documentation is the Android source  
24 code; correct, sir?

25 A. Uhm, that documentation is derived from the Android source

1 code.

2 Q. So in the Android source code, if we're looking at the  
3 class "java.lang.math," we would see what you wrote here as  
4 your specification, right?

5 A. Well, you -- you would see a -- uhm, a comment in the code  
6 which is meant to be extracted by a tool.

7 Q. And so when we look at the documentation, we're actually  
8 looking at information that was taken from the source code,  
9 correct, sir?

10 A. At this particular page here?

11 Q. At any page of the Android documentation where an API is  
12 being described.

13 A. My expectation would be that that code or that  
14 documentation would have been derived from a corresponding  
15 source code file.

16 Q. And the same is true in the Java world; you understand  
17 that to be true, sir, correct?

18 A. I believe that to be true.

19 Q. So when we're looking at this specification, we're  
20 actually looking indirectly at information that is in the  
21 source code for Android, correct?

22 A. Well, you're pointing at the specification that I just  
23 wrote. I didn't draw -- if you look at the --

24 Q. You're absolutely right. I withdraw the question.

25 When we are looking at the specification on the

1 screen, from Exhibit 767, and we're looking at the specific  
2 information for that application programming interface, we're  
3 actually looking at information that was drawn from the source  
4 code, correct?

5 **A.** If I understood you correctly, yes.

6 **Q.** And when we're looking at the documentation for Java, that  
7 we saw on the screen a minute ago, in the same way we're  
8 looking at information that was drawn from the source code for  
9 Java; correct, sir?

10 **A.** In -- you mean in this particular case?

11 **Q.** In any -- in the general case, sir, if we're looking at  
12 the application programming interface specification, we're  
13 looking at information that was drawn from the source code,  
14 correct?

15 **A.** I don't think as a general statement. Like, for example,  
16 in this Java language specification, there's a bunch of API  
17 documentation in that. I don't know that was actually done as  
18 Javadoc, offhand.

19 **Q.** The online documentation for the Java application  
20 programming interfaces, sir, is what I'm asking about.

21 **A.** My expectation would be that, yes, that specification is  
22 interspersed with the implementation source code.

23 **Q.** So when we talk about packages like java.lang, that were  
24 implemented based on the Java API in Android, and we look at  
25 all the elements that are on the that package, we would see

1 that implemented in the source code in Android, correct?

2 A. I'm sorry. Say that again.

3 Q. Did you implement in the source code in Android the  
4 elements of the application programming interface for  
5 java.lang?

6 A. Did I personally?

7 Q. Did your team --

8 A. Oh.

9 Q. -- and Noser and Apache?

10 A. Yeah, collectively, we implemented a -- a bunch of -- a  
11 bunch of classes, a bunch of methods, in -- in the package  
12 java.lang.

13 Q. And so if you look at the package source code, you will  
14 see it following -- for example, in java.lang, you'll see that  
15 the package source code follows this organizational structure;  
16 correct, sir?

17 A. What you'll see -- I mean, most -- for Java, each class,  
18 uhm, more or less necessarily ends up in a file with its --  
19 with a name that names that class.

20 So that first one there is Boolean. So you would  
21 expect to see a file named "Boolean.java," that would  
22 correspond to that class.

23 Q. And throughout the whole package; correct, sir?

24 A. That's the way you have to program in Java.

25 Q. And that's true for the other packages on the list of 37?

1 A. Uhm, if I understood you correctly, yes.

2 Q. Now, let's go to the timeline.

3 You talked about the development process for these  
4 core libraries. By the way, at one point did you refer to the  
5 core libraries in the Android as the Java core libraries?

6 A. I might have. I don't recall that specifically.

7 Q. When did you join Google?

8 A. Uhm, in October of 2005.

9 Q. So right around here on the timeline, was there -- was  
10 there a development effort well under way for Android at that  
11 point (indicating)?

12 A. It was -- you said "well under way"?

13 Q. Yes.

14 A. It was under way.

15 Q. And what kind of time pressure were you on to get a  
16 version of Android developed and released?

17 A. Uhm, you know, I don't remember the specific time frame  
18 that we had in mind but, you know, we felt like there -- there  
19 was an urgency. It felt like there was an urgency.

20 Q. And the important point was to get to market very quickly  
21 with Android, before the market was foreclosed by other  
22 vendors; correct, sir?

23 A. That's kind of a businessy (sic) question. I'm a  
24 technical guy.

25 Q. Well, you felt the pressure to get the libraries done.

1 What kind of pressure were you under, say, in 2006?

2 **A.** Well, I think the way that a lot of software development  
3 efforts go, there's -- you know, there's always --

4 **THE COURT:** He's not asking you about how they -- a  
5 lot of them go.

6 **THE WITNESS:** Okay.

7 **THE COURT:** He's asking about how this one went.

8 **THE WITNESS:** Okay.

9 **THE COURT:** Answer that question.

10 **THE WITNESS:** I'm sorry. There's always more that  
11 you can do to make something better. And there's always -- so  
12 there's always a tradeoff.

13 **THE COURT:** That's not what he asked. He didn't  
14 ask -- he asked what kind of pressure were you under in this  
15 exact case. Not what is always true.

16 Were you under -- you can say -- here's some examples  
17 of what you could say:

18 We were under a lot of pressure. This was a tough  
19 project.

20 Or, no, there was a time when things were going a  
21 little slow, and we were not sure where this project was going.

22 Or, no, at that point in time, we were under no  
23 pressure. We didn't even know if we were going to do the  
24 project.

25 Those are the kind of answers he's asking for, not a



1 general talk about how these things might work at some other  
2 company or work at Google in a different circumstance. He's  
3 asking about this case.

4 Come on. Answer that question.

5 **THE WITNESS:** Okay. Uhm, well, you know, I -- so I  
6 did feel pressure to get together, you know, a good  
7 implementation.

8 **BY MR. JACOBS:**

9 **Q.** And did that pressure accelerate as time went on from 2006  
10 to 2008?

11 **A.** Uhm, I don't know. I think it was -- it was kind of a  
12 constant -- I -- there's ebbs and flows. I think leading up to  
13 a release there is usually a bit of an increase in pressure.

14 **Q.** The iPhone was announced by Steve Jobs in January 2007;  
15 correct, sir?

16 **A.** I don't remember exactly when it was.

17 **Q.** And then it was publicly released in June of 2007;  
18 correct, sir?

19 **A.** I don't remember exactly. That sounds about right.

20 **Q.** So the pressure on the Android team to get out an SDK was  
21 intense; wasn't it, sir?

22 **A.** Uhm, I mean, I remember it being -- I mean, it was an  
23 intense project.

24 **Q.** And it was intense after the iPhone announcement; correct,  
25 sir?

1 A. It was intense before the iPhone announcement, too.

2 Q. Now, on the clean room, is it consistent with your view of  
3 a proper clean room that people can use the information that's  
4 in their head, so long as they don't literally copy from other  
5 projects' code?

6 A. Was there a question? I'm sorry.

7 MR. JACOBS: Read it back.

8 (The reporter read the pending question.)

9 THE WITNESS: That sounds like a reasonable statement  
10 to me.

11 BY MR. JACOBS:

12 Q. And, in fact -- Did you say it was reasonable, sir?

13 A. It did sound reasonable to me.

14 Q. So in a clean room you can use the information you have in  
15 your head?

16 A. That's right.

17 Q. Well, and that's the direction you gave to your team;  
18 isn't it, sir?

19 A. Uhm, I -- I think that was, in general, kind of what I --  
20 what I would have said at the time.

21 Q. Well, let's just confirm this. That's just not general.  
22 It's quite specific. Let me show you Exhibit 270.

23 A. Okay.

24 MR. JACOBS: I believe it's in evidence. No?

25 THE CLERK: I don't think so.

1 BY MR. JACOBS:

2 Q. Is 270 an e-mail from you, sir?

3 A. That's what it looks like.

4 MR. JACOBS: Offer 270.

5 MS. ANDERSON: No objection, Your Honor.

6 THE COURT: Thank you received.

7 (Trial Exhibit 270 received in evidence.)

8 BY MR. JACOBS:

9 Q. This is an e-mail from you that is cc'd to Android-Dalvik.  
10 Do you see that?

11 A. I do.

12 Q. And that's one of the groups of developers on the Android  
13 team, correct?

14 A. Actually, the Android-Dalvik team contained other members  
15 of other groups at Google.

16 Q. And Ben Titzer writes you some questions about whether --  
17 about the assignment of developers, correct?

18 A. Uhm, actually, I didn't read that part. Give me a second.

19 Q. Take a quick look.

20 A. Okay. (Reading)

21 What was the question?

22 MR. JACOBS: Read it back, please.

23 (The reporter read the pending question.)

24 THE WITNESS: About the assignment -- you mean  
25 like -- yeah, if I understood you correctly, yes.

1 BY MR. JACOBS:

2 Q. And you respond:

3 "In general, the Dalvik team accepts the  
4 services of coders who do have experience  
5 with JVM and related library code bases."

6 Do you see that?

7 A. I do.

8 Q. (As read:)

9 "Using the usual directive that it's okay to  
10 use what's in your head, but it's not okay to  
11 literally copy other projects code."

12 Do you see that?

13 A. I do.

14 Q. So if someone had in his head the detailed outline of the  
15 code, but didn't literally copy the code, in your view, that's  
16 okay?

17 A. If somebody had the detailed -- what I was getting at --

18 Q. Sorry. Yes or no.

19 A. I'm sorry. So I think -- okay. If you had like a  
20 photographic memory, that's not what I was getting at.

21 What I was getting at was if you have an  
22 understanding of the API, that's okay.

23 Q. You didn't say that in this e-mail; did you, sir?

24 A. E-mail -- e-mail is -- is an informal medium.

25 Q. I'm sorry. Yes or no. You did not say that in this

1 e-mail?

2 A. I did not say that in this e-mail.

3 Q. Thank you.

4 Now, let me ask you about the blog posting by Sun.

5 And that blog posting occurs in November 2007, November 6.

6 Do you recall that?

7 A. That sounds right.

8 Q. Did you decide to include the 37 packages of Java APIs in  
9 Android after you read that blog announcement?

10 A. No.

11 Q. You decided that back here in 2005-2006; correct, sir?

12 A. Uhm, it would have been 2006, mid-2006, I guess.

13 Something like that.

14 Q. And, in fact --

15 A. Actually -- wait, wait. Actually, I think that would --  
16 would have been more like early 2007.

17 Q. As of the SDK, the 37 packages are in there; right, sir?

18 A. That's right.

19 Q. And the SDK is a little more than a week after the blog  
20 posting, correct?

21 A. Uhm, I don't remember the exact date of the SDK.

22 Q. I'll represent to you it's a little more than a week after  
23 the blog posting.

24 A. Okay.

25 Q. You didn't decide to include the 37 packages in that

1 window of time; right, sir?

2 **A.** That's right.

3 **Q.** Sir, I have to ask you a somewhat intrusive question. Are  
4 you being compensated for your time as a fact witness?

5 **A.** I am.

6 **Q.** How much?

7 **A.** Am I allowed to say?

8 **MS. ANDERSON:** Yes, Your Honor.

9 **THE COURT:** Of course.

10 **THE WITNESS:** Okay. I'm being paid \$400 an hour.

11 **MR. JACOBS:** Thank you. No further questions.

12 (Pause)

13 **MR. JACOBS:** I've been told I have one more question.

14 (Laughter)

15 **THE COURT:** May I make a suggestion before you ask  
16 that? I think you should ask, because it's not clear, which  
17 side is paying him. You should ask who is paying --

18 **MR. JACOBS:** Thank you, Your Honor.

19 **THE COURT:** -- the \$400 an hour.

20 **BY MR. JACOBS:**

21 **Q.** Who is paying you, sir?

22 **A.** Google.

23 **Q.** Let me show you Trial Exhibit 359, and just ask you to  
24 identify it, please.

25 **A.** Uhm, that looks like a chat log.

1 Q. And is it a chat log involving you?

2 A. Yeah.

3 MR. JACOBS: Offer in evidence 359.

4 MS. ANDERSON: No objection, Your Honor.

5 THE COURT: Received.

6 (Trial Exhibit 359 received in evidence.)

7 MR. JACOBS: I now have no further questions.

8 THE COURT: Okay.

9 MS. ANDERSON: Thank you, Your Honor. Very briefly.

10 REDIRECT EXAMINATION

11 BY MS. ANDERSON:

12 Q. First, briefly, if we can touch, Mr. Bornstein, on the  
13 question about your compensation.

14 Do you have a job right now, separate and apart from  
15 what you're doing here today?

16 A. I do.

17 Q. Do you work full-time?

18 A. I do.

19 Q. Do you work more than full-time?

20 A. Basically, yeah.

21 Q. Okay. And why did you seek compensation for your time in  
22 regard to this litigation?

23 A. Uhm, well, it seemed like I'm -- you know, I'm the guy who  
24 did, technically, a lot of this stuff, and so that's -- it  
25 seems appropriate for me to be here. But I also actually

1 wanted to make sure that the -- my time was actually minimally  
2 invaded upon by this.

3 So, actually, I picked a price that I thought would  
4 reasonably discourage people from bugging me too much.

5 Q. Okay.

6 And could we please take a look at Exhibit 359, the  
7 one that was just shown to you.

8 A. Okay.

9 MS. ANDERSON: Could we please have that up, Ben.

10 (Document displayed.)

11 BY MS. ANDERSON:

12 Q. What is this e-mail exchange about, Mr. Bornstein? This  
13 is an e-mail from August of 2009. Would you please explain to  
14 the jury what this is about.

15 A. Okay. To be clear, it's a chat log, not an e-mail.

16 Q. Oh, excuse me. I'm sorry. Would you please explain what  
17 the chat log is about.

18 A. Okay. So this is about -- about the Apache Harmony  
19 Project. When -- so Apache Harmony, it's an open source  
20 project. And like many open source projects, it accepts  
21 contributions from -- from a wide variety of people.

22 Apache Harmony has very -- for an open source  
23 project, has, actually, a pretty strict set of rules about who  
24 they will let contribute code to, to the project.

25 And part of what they do is they ask people who want



1 to contribute to fill out a form which discloses their prior  
2 experience with the Java programming language and with  
3 implementing Java language APIs and like.

4 And what I'm discussing here -- so the guy who -- the  
5 other guy who this chat is with, is this guy Jesse, who was the  
6 core library lead at the time. And he was actually arranging  
7 to get these disclosure forms from everybody who was doing core  
8 library work.

9 And what I was expressing here, I said I worked for  
10 Danger. This was the company that I had worked at previously.  
11 And at Danger I worked on implementation of Java language APIs  
12 and implementation on a virtual machine that was meant to run  
13 code that was written in the Java programming language.

14 And so I asked him is, that something that I need to  
15 disclose for Apache? And he said, yes, you do. And in the end  
16 I -- I said my form will be a bit messy --

17 (Reporter interrupts.)

18 **Q.** The court reporter asked you -- when you said about the  
19 form being a bit messy, you were about to explain what that  
20 meant. Could you explain what you meant when you said your  
21 form would be messy.

22 **A.** Yeah. Uhm -- uhm -- I have worked in the industry for  
23 quite a long time. And I've worked in -- using Java for since  
24 like 1996. That was my first Java that I did.

25 And in 1996, I also worked on implementation of -- of

1 Java-related stuff. And so what I was saying was like my form  
2 is going to be like an arm's length long because I have had so  
3 much to do with this stuff over the years.

4 Q. Thank you.

5 You were also asked some questions before about --  
6 about whether or not Google built or bought APIs separate and  
7 apart from source code. Do you remember that general line of  
8 questioning?

9 A. I do.

10 Q. Okay. Did Google ever build or buy from others the names  
11 of APIs, as reflected in the various packages?

12 A. You know, you can't buy those things.

13 Q. Why is that?

14 A. You can't build -- because those are not -- those don't  
15 have substance.

16 Q. Okay. And are those APIs the same APIs you testified  
17 about earlier, as being part of what you need to use for the  
18 Java language?

19 A. That's right.

20 Q. All right. You also were asked some questions before  
21 about the extent to which Google engineers like yourself might  
22 have, from time to time, referred to certain documentation  
23 about Java APIs.

24 Do you remember, generally, that line of questioning?

25 A. I do.

1 Q. You said that you looked, from time to time, at  
2 documentation to understand the meaning of an API. Do you  
3 remember that testimony?

4 A. I do.

5 Q. What did you mean by that?

6 A. What did I mean by --

7 Q. Referring to documentation to understand the meaning of an  
8 API. What did you mean by that?

9 A. Well, what I meant is that, you know, that -- you know, an  
10 API -- an API is this thing that, you know, you can interact  
11 with in several ways.

12 You can be a user of an API. You can be an  
13 implementer of an API. But in order for there to be like a  
14 meeting of the minds, multiple minds have to understand the  
15 API.

16 And specifications can be written to -- in an attempt  
17 to capture that meaning in a way that should a programmer read  
18 it, they now have an understanding.

19 Q. Thank you.

20 And let's take a look at Exhibit 270 that you were  
21 shown, as well.

22 MS. ANDERSON: Can we have that up, please.

23 (Document displayed.)

24 THE WITNESS: Two-seven --

25

1 BY MR. VAN NEST:

2 Q. Two-seven-zero.

3 A. Which one is that?

4 Q. Two-seven-zero. Do you have that one in front of you?  
5 It's an e-mail.

6 A. I'm sorry, it wasn't in a folder. Yeah.

7 Q. Okay. You can take a look at it on the screen, as well.

8 A. Okay.

9 Q. And drawing your attention to the second paragraph of this  
10 exhibit, were you asked some questions about that before, by  
11 Oracle's counsel?

12 Do you remember that?

13 A. I do.

14 Q. All right. And I heard you about to talk about, in one of  
15 your answers, the idea of a photographic memory and how that  
16 might relate to what you understood to be the parameters that  
17 were fair.

18 A. Uh-huh.

19 Q. Can you please tell us what you meant.

20 A. Uhm, what I meant is that, you know, literal -- literal  
21 copying of implementation, that's, you know-- if you don't  
22 have -- if you don't have a license for it, you don't have  
23 permission for it. That's -- that's not right.

24 But in order to -- you know, in order to successfully  
25 be a programmer in any language, you have to have a certain

1 amount of stuff in your head about how that thing works. And  
2 that's the stuff that's -- that's okay.

3 **Q.** And the stuff that you're referring to, are you referring  
4 to the names of APIs?

5 **A.** Yeah. Like the names. The names of classes, the names of  
6 methods, the names of fields. What order parameters go in.  
7 You know, there's lots -- there's -- you know, even down to  
8 what -- what names -- what named exceptions get thrown when you  
9 have a particular error condition.

10 Like all of that stuff, you know, it was hard for me  
11 to draw like that much stuff in the -- on my little diagram,  
12 but that's the kind of stuff that --

13 **THE COURT:** Are you saying "error condition," like an  
14 error, or air condition?

15 **THE WITNESS:** Oh, it's error, e-r-r-o-r.

16 **THE COURT:** It's come across as "air conditioner."  
17 It's "error."

18 **THE WITNESS:** Not much that I worked on has anything  
19 to do with air conditioning.

20 **MS. ANDERSON:** With that, no further questions.  
21 Thank you, Mr. Bornstein.

22 **MR. JACOBS:** Very briefly, Your Honor.

23 **THE COURT:** Uh-huh.  
24  
25

**RECROSS EXAMINATION**

**BY MR. JACOBS:**

**Q.** You described the procedure at Apache Harmony for submitting forms that described one's prior experience in Java. Do you recall that testimony?

**A.** That's right.

**Q.** And that was because Apache Harmony was concerned about people working on the Apache implementation, who had information in their head about Java; isn't it, sir?

**MS. ANDERSON:** Objection. Foundation.

**MR. JACOBS:** The witness testified at length --

**THE COURT:** He can testify to what he understood given that so much of his testimony has been of that character. Overruled.

Please, answer.

**MS. ANDERSON:** Thank you, Your Honor.

**THE WITNESS:** Uhm, I don't -- I don't know exactly why Apache made that requirement, but I believe it's safe to say that they wanted to be conservative.

**BY MR. JACOBS:**

**Q.** And at Google you had no such procedure; isn't that true, sir?

**A.** You mean about disclosing prior work?

**Q.** About filling out a form and saying, This is the work I did on Java before you assigned me to Android. Here's my

1 disclosure.

2 **A.** Well, in my case, I actually did talk with -- with folks.

3 **THE COURT:** That's not what he asked.

4 **THE WITNESS:** I'm sorry. No --

5 **THE COURT:** Was there such a form?

6 **THE WITNESS:** There was no form.

7 **THE COURT:** Okay.

8 **BY MR. JACOBS:**

9 **Q.** And no formal procedure in order to make sure that people  
10 with prior Java knowledge were not assigned to Android;  
11 correct, sir?

12 **A.** There -- there was no formal procedure.

13 **Q.** In fact, Josh Bloch, who created the two files above the  
14 set that you deleted, Timsort and ComparableTimSort, he had  
15 prior Java knowledge and was assigned to work on the Android  
16 core libraries; wasn't he, sir?

17 **MS. ANDERSON:** Objection. Foundation.  
18 Mischaracterizes his testimony, Your Honor.

19 **THE COURT:** Overruled. Please, answer.

20 **THE WITNESS:** What was the question, again?

21 **BY MR. JACOBS:**

22 **Q.** Josh Bloch had prior Java knowledge; correct, sir?

23 **A.** That's right.

24 **Q.** And he was assigned to work on the Android core libraries;  
25 wasn't he, sir?

1 **A.** That's correct.

2 **MR. JACOBS:** Thank you.

3 **THE COURT:** Anything more, Ms. Anderson?

4 **MS. ANDERSON:** Nothing further, Your Honor. Thank  
5 you.

6 **THE COURT:** May Mr. Bornstein be excused and  
7 discharged, not subjected to recall?

8 **MR. JACOBS:** Yes.

9 **THE COURT:** All right. You're not subject to recall.  
10 Thank you, Mr. Bornstein. Have a great day.

11 **THE WITNESS:** Thank you.

12 (Witness excused)

13 **THE COURT:** All right. It's too late in the day to  
14 start a new witness, I think, unless you have some stipulation  
15 or something you want to read. And this would be a good time  
16 to do it.

17 **MR. VAN NEST:** We have some -- we have some requests  
18 for admission we could read, Your Honor. That would be fine.

19 **THE COURT:** How long will that take?

20 **MR. PURCELL:** There's only six of them, Your Honor, I  
21 think, or five.

22 **THE COURT:** Have you told counsel you are about to do  
23 this?

24 **MR. PURCELL:** We had given them notice that in our  
25 case --



1           **THE COURT:** All right. I need to tell you -- so  
2 you're going to read the request and then the admission part,  
3 right?

4           **MR. PURCELL:** Correct, Your Honor.

5           **THE COURT:** This is good. This will give you a  
6 chance to see how litigation works.

7           I've already told you about depositions. Remember  
8 that? Another way in which the lawyers can learn more about  
9 the case and get information before the trial comes is to send  
10 each other a request to admit something.

11           So, like, you might say, "Admit that the light was  
12 red when you ran through the intersection." And the answer  
13 would come back, "Yes, I admit that." That would be a rare  
14 case that somebody would do that, but it's possible.

15           All right. Now, in this case, we don't have traffic  
16 light type of things. They are much more complicated.  
17 However, we're about to hear the request to admit something.  
18 And then you hear the admission.

19           It's the admission part that is the evidentiary part.  
20 The fact -- it's like if the lawyer asks the question, that  
21 doesn't count. It's what the admission is that is something  
22 you can take into account.

23           So let's do the first one, and then if the -- then I  
24 will pause and explain to you which part is the evidence part.

25           So, Counsel, have you got your copy over there so you

1 can read along?

2 **MR. JACOBS:** Yes, Your Honor.

3 **THE COURT:** All right. So, here we go. We're going  
4 to read the request and then stop. And then say the answer,  
5 and then read the answer. Please, go ahead.

6 **MR. PURCELL:** Google's Request for Admission No. 70:  
7 "Admit that Android's Native Development Kit,  
8 (NDK) enables Google and third parties to  
9 develop software for Android using native  
10 code languages such as C and C++."  
11 Response: "Admitted."

12 **THE COURT:** Okay. So that's a great example, because  
13 there's a clean admission.

14 And so what was just read to you has been admitted by  
15 Oracle in this trial; and, therefore, is evidence that you can  
16 consider, really, both ways, I guess. In the entire case, you  
17 give it such weight as you think it deserves. But it has been  
18 admitted to by Oracle.

19 Next.

20 **MR. PURCELL:** Google's Request for Admission No.  
21 Number 145:

22 "Admit that neither Sun nor Oracle  
23 Corporation has ever publicly pursued any  
24 patent or copyright infringement claim  
25 against the Apache Software Foundation or the

1 GNU Project."

2 Response: "Admitted."

3 **THE COURT:** All right. Next.

4 **MR. PURCELL:** Google's Request for Admission No. 147:

5 "Admit that neither Sun nor Oracle  
6 Corporation has ever pursued any patent or  
7 copyright infringement claim against the  
8 Apache Software Foundation or the GNU  
9 Project.

10 Response: "Admitted."

11 Google's Request for Admission No. 152:

12 "Admit that many members of the Java software  
13 development community have used software code  
14 from the Apache Harmony Project that was  
15 licensed under the Apache Software License  
16 (version 2.0), and have distributed open  
17 source code under that license."

18 Response:

19 "Admitted that there are members of the Java  
20 software development community, such as  
21 Google, that have used software code from the  
22 Apache Harmony Project that Apache Software  
23 Foundation offered under its Apache Software  
24 License (version 2.0). Oracle is not aware  
25 of each license that each such developer has

1           used to distribute their code. Admitted that  
2           there are members of the Java software  
3           development community, such as Google, that  
4           have distributed source code under the Apache  
5           Software License (version 2.)"

6           **THE COURT:** So, in that instance, all that is  
7           admitted is the narrative answer that was given, not the  
8           question part. But it was a long, narrative answer, and that  
9           part is deemed admitted.

10          Next.

11          **MR. PURCELL:** One more. This is Google's Request for  
12          Admission No. 170:

13          "Admit that Sun accepted Google's free  
14          contributions of source code and used that  
15          code in official releases of Java."

16          Response:

17          "Admitted that Sun accepted Google's  
18          Timsort.java and ComparableTimSort.java into  
19          OpenJDK 7, which is licensed under the  
20          GPLv2."

21          **THE COURT:** All right. Likewise, it's just the  
22          narrative answer that is deemed admitted.

23          All right. Thank you, Mr. Purcell, for giving us the  
24          opportunity to go over requests for admissions.

25          Okay. We're now almost exactly at the magic hour of

1 1:00 o'clock, in 8 more seconds.

2 Thank you for being so patient over there. You are a  
3 wonderful jury. You're on time every day. You're paying  
4 attention. We're lucky to have you in this case. So see you  
5 back here tomorrow, at 7:45.

6 **THE CLERK:** All rise.

7 (Jury out at 1:00 p.m.)

8 **THE COURT:** All right. I have a few items to go over  
9 with you, but before we do that, any issues the lawyers wish to  
10 raise with the Court?

11 **MR. JACOBS:** Your Honor, we haven't had a chance to  
12 discuss this yet with Google's counsel -- I just mentioned  
13 it -- but Mr. Norton has something to raise.

14 **MR. NORTON:** So, we have a disclosed witness for our  
15 rebuttal case, Scott McNealy, whose name has come up in the  
16 course of testimony.

17 **THE COURT:** Sure.

18 **MR. NORTON:** But his schedule is such that he is  
19 available tomorrow, late in the court day. And not knowing  
20 whether Google will have rested by that time, we only today  
21 learned that he had this restriction on his schedule. And I  
22 hope to speak to Mr. Van Nest, and see if we could take  
23 Mr. McNealy out of order, if that's necessary.

24 **THE COURT:** What time could he be here?

25 **MR. NORTON:** I have not spoken to him directly, but I

1 understand 11:30.

2           **THE COURT:** How long will your examination be?

3           **MR. NORTON:** I expect short. And by "short" I mean  
4 on the order of 20 minutes total.

5           **THE COURT:** Seems like we should accommodate that.  
6 Don't you think?

7           **MR. VAN NEST:** Uhm, I would like to check, Your  
8 Honor. Mr. McNealy has never been on the rolling list. Maybe  
9 that's not required for rebuttal. But if he has a witness  
10 problem, he has a witness problem.

11           **THE COURT:** I would say no, it is not required for  
12 rebuttal because you don't know what people are going to say  
13 until you hear it, and then you hear it.

14           And I'm taking counsel at his word that it's going to  
15 be something that's true rebuttal and not something that should  
16 have been put in the case-in-chief. But if it is legitimate,  
17 we ought to accommodate him.

18           So you lawyers, please, consult with each other.

19           **MR. VAN NEST:** We will do that, Your Honor.

20           **THE COURT:** Anything else?

21           **MR. JACOBS:** Not from us, Your Honor.

22           **MR. VAN NEST:** Do you have our times? It's getting  
23 to be a little more important each day.

24           (Laughter)

25           **THE COURT:** Well, I haven't added it up. And if I do

1 it on the fly right now --

2 **MR. VAN NEST:** Well, don't do that. But I would  
3 ask --

4 **THE COURT:** -- I will make a mistake.

5 **MR. VAN NEST:** If we could get from Your Honor's  
6 clerk at an appropriate time --

7 **THE COURT:** I'll give you the numbers, and then you  
8 add them up. All right. We came in today with 780. And then  
9 on the plaintiff's side, they've used 15, 31 5, 50, and 2.

10 **MR. VAN NEST:** 15, 31, 5, 50, and 2 on the  
11 plaintiff's side.

12 **THE COURT:** On the plaintiff's side.

13 And then on the defense side coming in to today, you  
14 had 589. And then you used 60, another 60, 28, 8 and 6.

15 **MR. VAN NEST:** Terrific. We'll add those up.

16 **THE COURT:** Now, it's conceivable I didn't put  
17 something in the right column, but I think I did.

18 All right. Here are -- here is for each of you  
19 another draft Special Verdict Form. This is my latest version.

20 Dawn, would you please hand each side that.

21 **THE CLERK:** Okay.

22 **MR. VAN NEST:** Thank you.

23 **THE COURT:** It's not final, but it is a different  
24 version that will give you some clues as to what I see as the  
25 issues that should go to the jury.

1           And, again, I'm reserving on the issue of whether or  
2 not the structure, sequence, and organization is a  
3 copyrightable item in the first place. But, as I have said  
4 several times, it's best to get the jury's verdict on that.

5           And if the Court takes it away, assuming that there's  
6 a plaintiff verdict, then it will be easy for the Court of  
7 Appeals to reverse and reinstate, as opposed to have to have a  
8 new trial.

9           But, that's not the main point. I want you to be  
10 aware of some things that I mentioned to you. I do not have in  
11 this verdict form a theory that the -- the implementable  
12 compilable code, the implementation as we've been referring to  
13 it, is a derivative work of the specification or the  
14 documentation.

15           And, in my view, that is the classic case of trying  
16 to lay claim to the ownership of an idea.

17           Those -- what those specifications and documentations  
18 do is explain in detail what the module is supposed to  
19 accomplish. And then if you were to put someone in a clean  
20 room and they came up with their own implementation, that's  
21 like creative writing.

22           And the idea that Mr. Jacobs could lay claim to that,  
23 to my mind, even I understand under copyright law that is a  
24 no-no. So I think that theory is out the window. Although, no  
25 Rule 50 motion has been made on that yet, but it should be



1 made, in my judgment.

2 Now, on the other hand, I do have a number of your  
3 theories, as I have come to understand them, laid out in this  
4 form.

5 I think there is a trying to have it both ways  
6 character to the plaintiff's case here on work as a whole,  
7 sequence, structure, organization. But in fleeting moments,  
8 I'm able to understand it. Then it goes out of my mind, and I  
9 understand it again.

10 And I have tried to capture what I understand it to  
11 be in questions 1 and 2. Question 1 is all 37 put together.  
12 Question 2 is considered individually.

13 So, on the defense side, I think that if SSO is  
14 copyrightable, which this -- the jury is going to be told to  
15 accept as a legal proposition, then you cannot argue that  
16 that's deminimus, in my judgment.

17 No reasonable jury could find that the structure,  
18 sequence, and organization is deminimus. That's like saying  
19 the backbone of a human being is deminimus. No. I don't think  
20 that will fly.

21 So I don't -- I'm not going to let you make that  
22 argument. And there ought to be a Rule 50 motion made by  
23 Oracle to that effect.

24 However, I do think the deminimus argument is  
25 viable -- it's up to the jury -- with respect to those

1 individual files that were copied. You know, that is a tiny  
2 thing. It may be great coloration. I don't blame Oracle for  
3 wanting to put that in here. But the amount of damages that  
4 could flow from that are measured in tiny numbers. And so it's  
5 more coloration and other -- and has other roles to play in the  
6 case. But there, deminimus is a viable jury argument, and I'm  
7 going to let that -- deminimus on that go to the jury.

8           So I wish you all would just stipulate that those --  
9 on each side, that those issues would go out rather than try to  
10 preserve every possible argument for appeal. But, you know,  
11 you don't have to stipulate to it. But I would prefer that you  
12 find other ways to streamline these issues.

13           Now, I'm beginning to hear a -- in the evidence, I'm  
14 beginning to hear a defense item -- possibly it's right, but it  
15 seems to be a way to escape the admissions that have been made  
16 about SSO in the case -- which is that API is not really  
17 anything at all. It's just an idea. And that you can't  
18 even -- it doesn't exist, really, except in somebody's mind.  
19 That's what I heard this last witness say.

20           I have drafted this special verdict form before I  
21 heard that. So you may want to pay closer attention to the way  
22 in which I use the term "API."

23           I possibly have got it wrong or right. But I wish  
24 you all would come up with a -- you can meet and confer and  
25 tell me your views on how the -- I've got to use the word API

1 in the instructions. And if you two can't come up with a way  
2 to define it, I'm going to have my own definition.

3 To me, this has finally become quite clear what  
4 happened here. The name, the declaration is the same. Maybe  
5 the parameter could be different. X and Y instead of A and B.  
6 Those are the same. And it's the same hierarchical set of subs  
7 and classes, and so forth. That is the same.

8 What is different are the implementations, meaning  
9 the compilable code, with the exception of the declaration,  
10 which does get compiled. But that is a necessary thing, so  
11 that -- that part is the same. But the code that implements it  
12 gets compiled, seems to be conceded by Oracle to be different,  
13 with the possible exception of those miscellaneous files  
14 that -- like rangeCheck. And there are two files.

15 So the issue on SSO is, is that hierarchy and the  
16 names and declarations -- I've already said the names are out.  
17 You can't copyright that. But is the hierarchy and the  
18 structure of each individual module, which is name,  
19 declaration, code, is that something that is protectable? And,  
20 if so, was it violated here? And then on the -- in the overall  
21 chart, like that 1028 chart, is that overall taxonomy -- has  
22 that been violated?

23 To me, that's the issue. And that's the way we ought  
24 to pitch it to the jury. That's what my intent is, to come as  
25 close as I can to that.

1 I wish you would -- and I think in your heart of  
2 hearts you realize that those are the issues, and you ought to  
3 meet and confer and find ways to streamline what the issues are  
4 that are going to be presented to the jury.

5 I have not put in any special interrogatory on the  
6 equitable defenses, but I have one in mind that, time  
7 permitting, it would be something like this:

8 Has Google proven that Oracle -- I'm sorry, Sun, led  
9 it to believe through affirmative actions that it did not need  
10 a license for what it was doing? Or some words to that effect.  
11 That would be an advisory verdict.

12 But I don't want to even contemplate the possibility  
13 of an advisory special interrogatory until after I feel like  
14 we're very close to an agreement on the special verdict form.

15 I don't have the instructions, yet, for you. I'm  
16 still working on that. But I thought I would give you this  
17 special verdict form a little bit ahead of time. And I invite  
18 your comments by midnight tonight. If you want to give me  
19 comments by midnight, that would be grand.

20 You know, I thought your last set of comments on the  
21 other form were very helpful. And I suspect you could come up  
22 with some good comments on this one, too.

23 Okay. I've said enough. Any comments you would like  
24 to say? Any questions, comments, whatever?

25 Mr. Van Nest.

1           **MR. VAN NEST:** I just heard your voice trail off at  
2 the end, Your Honor. You would like to get comments on this  
3 verdict form by midnight tonight?

4           **THE COURT:** If you can, it would be good.

5           **MR. VAN NEST:** We'll try to do that.

6           **THE COURT:** Good.

7           **MR. VAN NEST:** We'll digest the form and give as many  
8 comments as we can.

9           **MR. JACOBS:** Nothing, Your Honor.

10          **MR. NORTON:** Your Honor, one thing.

11          **THE COURT:** Yes.

12          **MR. NORTON:** The calculation of time.

13          **THE COURT:** Yes.

14          **MR. NORTON:** I agree with Mr. Van Nest that minutes  
15 have become precious. And comparing the Court's time to the  
16 time that we've been keeping at our table, it appears that Your  
17 Honor may have counted 50, five-zero, minutes for our  
18 examination of Mr. Bornstein.

19          **THE COURT:** Correct.

20          **MR. NORTON:** And our calculation was that Mr. Jacobs  
21 began at 12:12.

22          **THE COURT:** Oh, you're right there. I can see by my  
23 own notes. I have 12:13 to 12:44. Right?

24          **MR. NORTON:** I have 12:12, but looks like we're  
25 pretty much on the same spot.

1 (Laughter)

2 **THE COURT:** Well, you want to take my number because  
3 it's better for you. But I'm going to use my numbers. And I  
4 did make a mistake. It's 31 minutes.

5 **MR. NORTON:** Thank you, Your Honor.

6 **THE COURT:** What was I thinking?

7 **MR. NORTON:** I believe that our count --

8 **THE COURT:** Probably when I heard that \$400 number --  
9 (Laughter)

10 **THE COURT:** -- my mind started to --

11 **MR. NORTON:** It caused inflation.

12 **THE COURT:** -- reel.

13 **MR. NORTON:** So we had a total of 84 minutes.

14 **THE COURT:** You all don't know what impact that has  
15 on the jury -- who is over there getting like \$40 a day -- to  
16 find out a fact witness is getting \$400 an hour. That's a big  
17 deal.

18 It's too bad -- I guess -- I'm sure you have a truce  
19 that you're not going to expose each other's experts for how  
20 much millions that they have probably been paid.

21 **MR. JACOBS:** We do have such a truce. Thank you for  
22 the suggestion.

23 **THE COURT:** Fine. I won't force you to reveal it.  
24 But, you know, they would be even more shocked, I bet, to learn  
25 that number.

1           Okay. I'm going to break unless you have something  
2 else you want to bring up.

3           **MR. VAN NEST:** I think we're set, Your Honor.

4           **THE COURT:** Thank you. See you at 7:30.

5           (At 1:16 p.m. the proceedings were adjourned until  
6 Thursday, April 26, 2012, at 7:30 a.m.)

7                           - - - - -

E X H I B I T S

<u>TRIAL EXHIBITS</u>	<u>IDEN</u>	<u>VOL.</u>	<u>EVID</u>	<u>VOL.</u>
270			1848	8
272			1816	8
359			1852	8
573, 606, 607, 2040, 2052, 2053			1655	8
2054, 2059, 2060, 2061, 2199, 2205			1656	8
2259, 2724, 3030, 3494, 3508, 3520			1656	8
2765			1693	8
3525	1811	8		

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I N D E XDEFENDANT'S WITNESSESPAGEVOL.**RUBIN, ANDY**

(PREVIOUSLY SWORN)	1673	8
Direct Examination Resumed by Mr. Van Nest	1673	8
Cross Examination by Mr. Boies	1721	8
Redirect Examination by Mr. Van Nest	1752	8
Recross Examination by Mr. Boies	1758	8
Further Redirect Examination by Mr. Van Nest	1762	8
Further Recross Examination by Mr. Boies	1763	8

**BORNSTEIN, DANIEL**

(SWORN)	1764	8
Direct Examination by Ms. Anderson	1764	8
Cross Examination by Mr. Jacobs	1827	8
Redirect Examination by Ms. Anderson	1852	8
Recross Examination by Mr. Jacobs	1859	8

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**CERTIFICATE OF REPORTERS**

We, KATHERINE POWELL SULLIVAN and DEBRA L. PAS,  
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/s/ Katherine Powell Sullivan

Katherine Powell Sullivan, CSR #5812, RPR, CRR  
U.S. Court Reporter

\_\_\_\_\_  
/s/ Debra L. Pas

Debra L. Pas, CSR #11916, RMR CRR

Wednesday, April 25, 2012